THE AWARDS ISSUE

FutureMusic

Issue 391
Making the future since 1992

GEAR OF THE YEAR

2022

From synths to software, monitors to modular – all of 2022's must-try gear in one place.

PLUS

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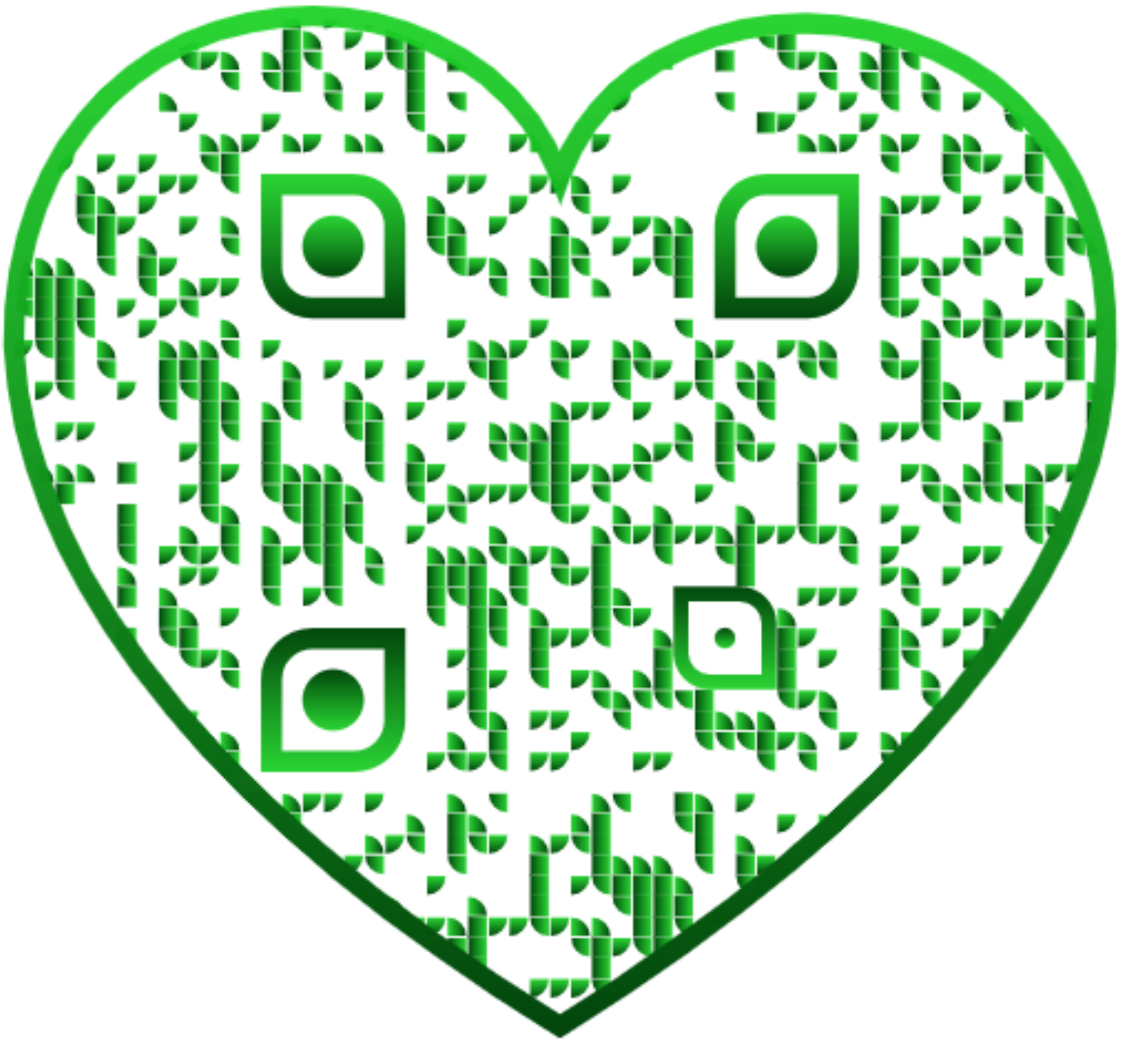

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75 AKG YEARS

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istanbul
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Awards time!

It's that time of year again – *Future Music*'s annual Gear of the Year issue. Time for us to revisit and reappraise the best of the hardware, software and studio tools that have graced our studios and test benches over the past 12 months. Head to page 26 to find out what's come out on top for 2022.

Before that though, we've got some other winners to reveal. In our 30th anniversary issue, FM389, we revealed our 30 essential gear releases of FM's lifetime. We also asked you to vote for your top hardware instrument and electronic artist since 1992. It was a close-fought thing on both fronts, but we can now reveal that the greatest instrument release of FM's lifetime according to FM readers is... **Native Instruments Maschine**. And your favourite electronic artists are... **Daft Punk**.

Deserving winners on both fronts. You lot have good taste! Thanks for reading FM this year.

Si Truss, Editor-In-Chief
simon.truss@futurenet.com

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FM CONTENTS

38

IN THE STUDIO WITH...

Saoirse

The DJ and Radio 1 presenter on how the COVID-19 pandemic allowed her to finally make the move into production

ISSUE **HIGHLIGHTS**

70

REVIEWED

Arturia MiniFreak

Is Arturia's latest hybrid synth more than just a beefed-up MicroFreak?

12

Filter
The Model D is back!

64

Interview
Rabit

84

Review
Audiomodern Loopmix

20

Classic Album
The Wiseguys

18

Talking Shop
Ataxia

74

Review
Moogerfooger plugins

REVIEWS

70 Arturia MiniFreak
74 Moog Moogerfooger plugins
78 RødeCaster Pro II
80 Roland Fantom-06

83 Befaco Pony VCO

84 Audiomodern Loopmix
86 Sennheiser XSW IEM Set
88 Elgato Wave DX
90 Sounds and Samples
92 Testbench: Signum Audio Skye Clipper

ARTISTS

18 TALKING SHOP
ATAXIA
38 IN THE STUDIO
SAOIRSE
48 INTERVIEW
TYLER POPE
58 IN THE STUDIO
NOSAJ THING
64 INTERVIEW
RABIT

REGULARS

12 Filter: Minimoog Model D is back!
20 Classic Album: The Wiseguys, *Executive Suite*
24 SAVE MONEY on a print or digital subscription to *Future Music*
53 **Producer's Guide to…** Moog Moogerfooger plugins

94 Knowledge:
Gain Staging

95 Quick Synth Tips: part 1
96 End of Year Guide
2022's best albums

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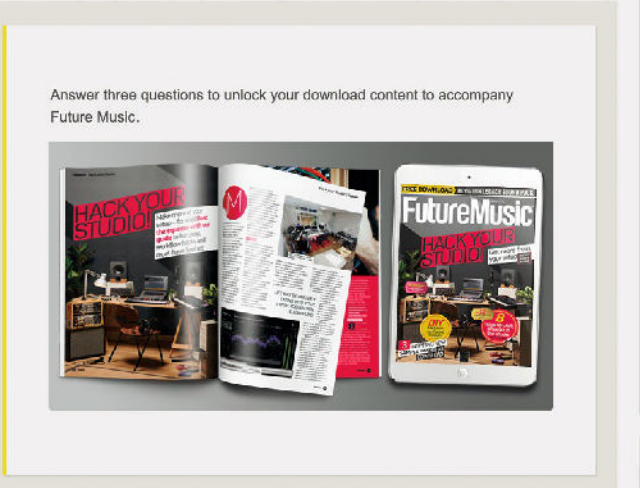

58

IN THE STUDIO WITH

Nosaj Thing & Sunny Levine

We catch up with US producer Jason Chung and his longtime studio partner Levine to talk creativity and collaboration

IN THE **ARCHIVE – UPDATED!**

FM's Sample Archive gives you over 18GB of royalty-free sounds. **Here's what's inside...**

ARCHIVE CLASSICS

AMBIENT SOUNDS PT.1
- '90s Ambient (562 samples)
- Ambient Dawn (490 samples)

AMBIENT SOUNDS PT.2
- Majestic Bells & Mallets (444 samples)
- Spring Reverb & Tape Delay (533 samples)

ATMOSPHERES & BACKGROUNDS
- Atmospheric Beds (369 samples)
- Noise, Crackle & Hiss (512 samples)
- Sounds of the City (371 samples)

BASS BUNDLE
- Amped-Up Bass (234 samples)
- Sub-Frequency Grooves (256 samples)

ESSENTIAL DRUMS
- 808 and 909 (39 samples)
- Ultimate Cymbals (503 samples)
- Ultimate Kick Bundle (505 samples)
- Ultimate Snares & Claps (676 samples)
- Vintage Drum Machine Hits (548 samples)

FOUND FAVOURITES
- Mechanical Sounds (390 samples)
- Out There FX (500 samples)
- Studio Noise (234 samples)
- The Edge Of Noise (512 samples)
- The Sound Of Water (375 samples)

FUTURE DRUMS
- Beyond Breakbeats (186 samples)
- Digital Percussion (502 samples)
- Electro FX (321 samples)
- Granular Drums (499 samples)

FX & TRANSITIONS PT.1
- Filter Fun (496 samples)
- Gates 'N' Sidechains (287 samples)
- Total Transitions (260 samples)

FX & TRANSITIONS PT.2
- Destroyed synths (519 samples)
- Sci-Fi FX (501 samples)

HIP-HOP, FUNK & SOUL
- Cosmic Soul (386 samples)
- Funk Keys (279 samples)
- Hip-Hop Drum Machines (387 samples)
- Minimal Hip-Hop (540 samples)

HOUSE & TECHNO
- Chicago House (537 samples)
- House & Techno Stabs (213 samples)
- Jacking House (518 samples)
- Warehouse Techno (575 samples)

PERCUSSION
- Modular Percussion (510 samples)
- Shakers, Tambs & Toplines (503 samples)
- Sticks, Knocks & Rims (502 samples)

MORE BEATS
- '80s Pop Drums (197 samples)
- Dub Percussion 2 (537 samples)
- Jazz Drums (499 samples)
- Total Snares (501 samples)

TRANCE & RAVE
- Classic Breakbeats (371 samples)
- Rave Synths (524 samples)
- Trance Tools (537 samples)

NEW PACKS

'70S SYNTHS
- '70s Synths Pt 1 (102 samples)
- '70s Synths Pt 2 (192 samples)

'80S SYNTHS
- '80s Synths Pt 1 (265 samples)
- '80s Synths Pt 2 (279 samples)

'90S SYNTHS
- '90s Synths Pt 1 (414 samples)
- '90s Synths Pt 2 (411 samples)

'00S SYNTHS
- '00s Synths Pt 1 (308 samples)
- '00s Synths Pt 2 (188 samples)

DRUM HITS
- Analogue Drums (311 samples)
- Rims 'n' Things (549 samples)
- Resonator Percussion (502 samples)
- Hats, Cymbals & Gongs (280 samples)

LO-FI TOOLS
- Clips, Skips and Glitches (497 samples)
- Tape World (499 samples)
- Lo-fi Acoustic (277 samples)

ETHEREAL FX
- Digital Nature (255 samples)
- Clouds & Air (496 samples)

TECHNIQUE **& FEATURES**

26

Gear of the Year

What synths, software and gear do you need for 2023? Find out with our annual end-of-year awards

EXCLUSIVE **SAMPLE PACKS**

World Rhythms

CYCLICK SAMPLES PRESENT...

Go beyond the simple pulse of pop and dance music with this pack of grooves and loops inspired by a variety of international traditions

Piezo FX

GROOVE CRIMINALS PRESENT...

We break out the contact mics and get creative for this pack of unusual transition FX, oddball instruments and out-there textures

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loopmasters.com

01 **Loopmasters** Francesca Lombardo – Echoes
02 **Aim Audio** Art In Music Lo-fi Vinyl Textures
03 **Thick Sounds** UK Garage Dynamics
04 **ZTekno** Magma. Melodic Techno
05 **Renegade Audio** Chopstick Dubplate Presents Jungle Soundclash Vol.1
06 **Loopmasters** The North Quarter Sound TNQS-VOL.4-FM

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The original Moog Minimoog Model D is back and looking better than ever

IT'S VERY MUCH THE MINIMOOG MODEL D THAT SO MANY OF US KNOW AND LOVE

Considered by many to be the greatest synth of all time, the original Minimoog Model D was released in 1970. It remained on sale for just over a decade, before production ceased in 1981. Capitalising on the analogue revival, Moog reissued the Model D in 2016, but took it off the market in 2017 due to a shortage of parts. Now, five years later, it's back, looking as lovely as ever.

We're assured that this new version has the same sound engine and signal path as the original, while also retaining the modifications that were made for the 2016 reissue.

These include a dedicated analogue LFO with triangle and square waveshapes, a Fatar keybed with velocity and after-pressure available via top panel CV jacks with onboard trimpots, MIDI integration, improved pitchwheel calibration, and a mixer feedback modification which enables you to put the Minimoog Model D into overdrive and make it scream simply by turning a knob.

New features for 2022 include a spring-loaded pitchwheel that will centre itself when it's released (a popular artist request, we're told) and updates to the MIDI functionality.

Otherwise, it's very much the Minimoog Model D that so many of us know and love: a three-oscillator, monophonic analogue synth that features the classic Moog low-pass ladder filter and a mixer section.

Of course, the market has changed since Moog last had a Minimoog in production – Behringer can now offer you their own low-cost hardware version of the Model D, and they've also created a 4-voice polyphonic edition in the shape of the Poly D – but Moog are playing in a different, higher-end market, emphasising their new instrument's authenticity and quality.

To wit, every Moog Model D is built by hand to the original specifications, and each instrument is housed in a locally sourced Appalachian cherry cabinet with a legacy-inspired walnut stain and hand-finished aluminium chassis.

The Minimoog Model D is available now priced at £5,299. FM

HOUSED IN A LOCALLY SOURCED APPALACHIAN CHERRY CABINET WITH A HAND-FINISHED ALUMINIUM CHASSIS

Sequential unveil the Trigon-6, Dave Smith's final synth

When he died earlier this year, Sequential's Dave Smith was mourned both in the synth community and beyond. However, it turns out he had one final design to share with us: the Trigon-6.

"Dave Smith was very excited about the Trigon-6 and we believe it continues his legacy as a synth creator," says Sequential CEO David Gibbons. They have also confirmed that this was the last synth that Smith had contributed to.

The six-voice synth offers three newly-designed discrete voltage-controlled oscillators per voice, and simultaneously selectable waveshapes (triangle, sawtooth, reverse sawtooth and variable-width pulse), plus a two-/four-pole ladder filter design with feedback and drive, and analogue voltage-controlled amplifiers.

Sequential make no secret of the fact that the Trigon-6 takes inspiration from the Prophet-6 and OB-6, two of its previous releases, and inherits their Poly Mod section. Modulation sources include a filter envelope and third oscillator (both with bi-polar control), while destinations include oscillator 1, 2, and 3 frequency, oscillator 1, 2, and 3 pulse width, low-pass filter cutoff and feedback.

There's also a 24-bit/48kHz dual digital effects section that features reverbs, modelled digital and analogue delays, chorus, flanger, phase shifter and ring modulation. If you want to maintain a fully analogue signal path, true bypass is your friend, and you can also make use of the fully analogue stereo distortion.

Other features include a multimode arpeggiator and a polyphonic step sequencer that offers up to 64 steps and up to six notes per step. The full-size, four-octave Fatar semi-weighted keyboard is velocity-sensitive and responds to aftertouch.

The Trigon-6 has an innovative knob-per-function design, great for avoiding cumbersome menu diving. You can toggle between preset and live panel modes, which switches the synth into a 'what you see is what you hear' configuration.

Available now priced £3,550. FM

Newfangled Audio says that its Invigorate plugin is a bus compressor like no other

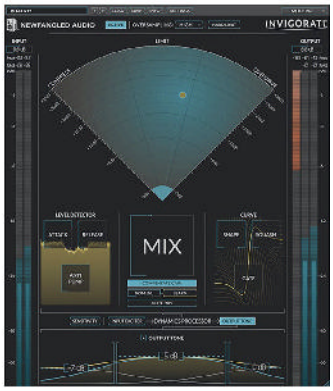
If your current bus compressor isn't getting you to the sonic place you'd like, Newfangled Audio are offering a potentially revitalising alternative in the shape of its new Invigorate plugin.

The company begins their pitch by positing that compression, limiting, and overdrive are all sides of the same coin, and that Invigorate can handle the lot. Not just on your drum or mix bus, either, but on any element of your track. The plugin lets you morph between compression, limiting and overdrive on a radar-style interface, with a Mix control used to set the amount of processing you want to apply. You can also tailor the frequencies of the sidechain signal with the Sensitivity control, and overdrive the dynamics processing via the Input Exciter.

You also have Output Tone controls to play with – these adjust the sound of the wet signal before it's mixed with the dry – and you can adjust the gain curve with Shape, Squash and Gate controls.

Newfangled Audio say that they've implemented a gain compensation algorithm so you're not tricked into thinking that 'louder is better', while oversampling and anti-aliasing are designed to ensure that the sound is clean with no digital aliasing.

Invigorate runs on PC and Mac in VST/AU/AAX formats, priced at $99. A 30-day demo means you can try before you buy. FM



Korg head back to the '90s and '00s with microKorg, Electribe and Kaoss

Korg have added microKorg, Electribe and Kaoss Pad plugins to their synth-packed software collection. This ensures that version 4 of the eye-catching bundle – which already included emulations of (among others) Korg's M1, Wavestation, Mono/Poly, Polysix, ARP Odyssey, Triton, Prophecy and miniKorg 700s synths – could well be the most comprehensive yet, containing a total of 11 synths, two effect processors and one drum machine.

Version 4 has its sights set on the '90s and '00s, with 2002's microKorg being the most notable addition. The plugin emulates the "sound, behaviour and look" of the original, including its analogue modelling oscillator, filter and amp sections. The effects section, arpeggiator and – of course – the vocoder are here, too, though the iconic gooseneck microphone doesn't come included.

The Electribe-R is based on iElectribe for iPad, which landed in 2010, but offers expanded beat modes and the effects and step sequencer from both 1999's Electribe-R hardware and the subsequent mkII version. All preset data from iOS versions is here, too.

Finally, the much-loved Kaoss Pad – which we originally saw in 1999 – makes an appearance. This gives you your first opportunity to go under the hood and look at the "complex internal structure" of this dynamic effects processor, but retains the pad control surface that made it so intuitive and easy to use.

All three of the new plugins are available individually at the special intro price of $100 each (regular price $149), but with its intro price of $299 (regular price $400). All the plugins run on PC and Mac in VST/AU/AAX formats. **FM**

Sonicware's Liven Lofi-12 revives gritty '80s samplers

Sonicware have added another product to the Liven range of grooveboxes: the Lofi-12 is designed to emulate the sound of old-school samplers. Promising to "turn everything lo-fi", this has a 16-bit/12kHz/24kHz sampling engine and a 12-bit sampler mode that's inspired by '80s and '90s hardware such as the Akai SP-1200. So, if you're after that crunchy vintage sampler sound, you should be covered.

Each of the 128 sample slots offers up to four seconds of mono sampling at 12kHz or two seconds at 24kHz. You can trim start and end points, adjust the pitch, reverse the playback, filter, use LFO modulation and more.

Samples are automatically mapped to the Liven Lofi-12's keyboard so that they can be played at different pitches. You also get 80 suitably gritty lo-fi sounds to help get you started.

There's a 4-track 64-step sequencer, too; you can switch sounds for each phrase or step so that you can combine multiple sounds in a single song. You can save up to 64 patterns, sub-divide steps and use parameter locking to record knob tweaks into your patterns. There's also a Laidback knob that can be used to delay the start of the selected sound when you're creating those off-kilter 'drunk beats'.

11 types of track effects are joined by six reverbs on the master output. Cassette tape and vinyl simulators can be applied at this stage, too. Audio I/O comes on 3.5mm jacks, and there's also MIDI and sync I/O. The Lofi-12 has a built-in speaker and can be powered either by six AA batteries or an AC adapter (not supplied).

The Liven Lofi-12 costs $239 and is available to order now. **FM**

reFX releases Vanguard 2: much-loved soft synth returns

Released in 2004, reFX's Vanguard used to be a pretty big deal in the soft synth world, but it eventually started to be outgunned by its rivals, and was discontinued in 2016. However, the plugin's fans will be pleased to see that reFX have now – finally – released version 2.

Vanguard remains a three-oscillator synth, but it now boasts a cleaner vector-based UI, 10 new wavetables, two new filter types, a new delay type, new reverb and distortion effects, synced LFOs and more. There are also 136 completely new factory presets, but happily, the synth is also compatible with projects that use Vanguard 1. Load your old songs and the sounds you used before immediately load up, too (that's the theory, anyway).

Vanguard 2 also appears to be more usable than its predecessor, with an 'advanced' sound librarian featuring three columns and offering colour-coded tags, bookmarks, favourites and a dedicated location for user presets. Sounds can be previewed instantly, you can search as you type, and it's possible to filter presets by categories and tags.

Available now, the 'Complete' version of Vanguard 2 comes with all 16 Vanguard expansions that were previously sold by reFX, which equates to a total of 2,440 presets and 63 one-shot drum samples. It runs on PC and Mac in VST/AU/AAX formats. FM

Aodyo's Anyma Omega puts physical modelling into a hybrid hardware synth

Cast your mind back a couple of years and you may recall the Aodyo Anyma Phi, a three-oscillator monophonic desktop synth that put particular focus on its physical modelling capabilities. Now the same technology has been used to power the Anyma Omega, a 16-voice polyphonic, four-part multitimbral synth that's available in both desktop and keyboard flavours.

As you may be aware, physical modelling synths use complex mathematical algorithms to emulate not only the sounds of acoustic instruments, but the way they're actually played. Each of the Anyma Omega's three oscillators can use either a physical model, a virtual analogue model, a digital model, a noise source or an external input.

You can then treat each voice with up to five effects, choosing from the likes of resonators, filters, EQ, dynamics, mix effects, timbre shapers and delays. You can also access up to 16 modulators – envelopes, LFOs, audio, shapers and the like.

A total of 123 different module types is currently available, including 44 sources, 33 effects and 46 modulators. Easy tweaks to your sounds can be made with the 14 macro parameters that control each patch's main characteristics, and you can also adjust individual parameters for each module via the display and controls.

For those looking for a completely standalone synth, Aodyo has the keyboard version of the Anyma Omega. This features a 49-note Fatar semi-weighted aftertouch keyboard, a wooden surface ribbon controller, pitch/mod wheels and a 3D sensitive touchpad with audio sensing.

The desktop version loses the keyboard, pitch/mod wheels and touchpad but does still have a ribbon controller, albeit a significantly smaller one.

The Anyma Omega has already been funded on Kickstarter, but you can still pledge €840 to receive a desktop version or €1,155 to secure a keyboard version. You can expect delivery in September 2023. FM

Waldorf's Streichfett plugin brings that '70s adult movie sound to your DAW

When Waldorf launched their Streichfett hardware string synth in 2014, they said that its general vibe would be along the lines of "how adult movies sounded thirty years ago". This being the case, it stands to reason that the new plugin version resides in a similarly raunchy sonic wheelhouse.

The interface on this software port mirrors the hardware pretty closely. Designed to emulate the classic string machines of the '70s and '80s, Streichfett offers a dual sound engine comprising a polyphonic string section and an eight-voice solo section.

You can add movement to the string section with the ensemble effect, while other processors include adjustable phaser and reverb. There's also an animate effect that can be used to modulate the strings' registration, opening up additional sound morphing possibilities. Although the Solo section sounds have names like Bass- E-Piano and Clavi, the tones themselves bear little resemblance to 'real' instruments, but are instead designed to complement the strings.

Playing and controlling the Streichfett should be pretty straightforward, but there's plenty going on under the hood, and you can expect "rich and creamy pads unlike any other instrument".

Streichfett runs on PC and Mac in VST/AU/AAX formats and is available now priced at €33. FM

Generate new musical ideas in Ableton Live

How to create massive bass sounds using Live's Wavetable

Wavetable is one of Ableton Live's most powerful instruments. It has impressive capabilities for wavetable synthesis, sound design and expression controls. As a fan of big, dirty bass sounds, often with a retro twist, it's the instrument I go to when designing a bass that should stand out from the arrangement. I recommend first finding two wavetable collections that inspire you, using both primary oscillators. After, you can add the sub-oscillator to create depth. One important aspect of getting your bass sound right is how you use the three envelopes, two LFOs and the modulation matrix provided. If you also like the retro bass sounds, try using Wavetable Unison to spice things up. Let's explore designing a bass with these four steps…

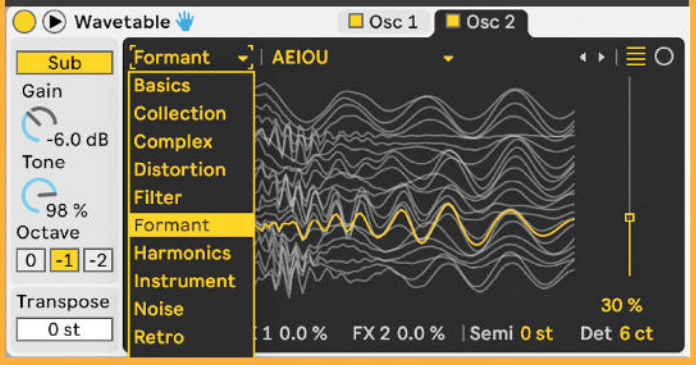
ABOUT THE AUTHOR

Liina Turtonen aka LNA is a musician, producer and Ableton Certified Trainer. She's best known from her YouTube channel *LNA Does Audio Stuff* where she gives production advice with a fun twist. Follow her at: **youtube.com/lnadoesaudiostuff**

01

Activate oscillators

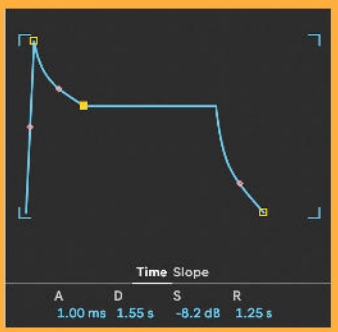
The first step is to activate your three oscillators and select your wavetables. For big bass sounds, I like to explore the "Formant", "Distortion", and "Retro" preset libraries. Turn the "Tone" up on the sub oscillator and select the perfect sound with the "Wave Position" selector.



02

Add character

Use the Amp envelope to determine the character of your bass sound. Keeping the decay, sustain and release shorter and quieter creates a pluck-style bass, and by doing the opposite, you end up with a lush sound with increased impact.



03

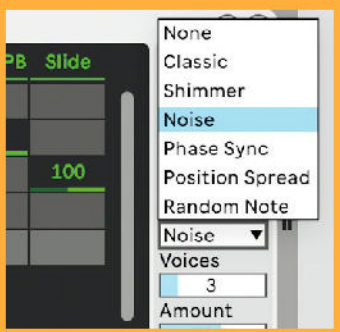
Modulation Matrix

The full power of Wavetable comes alive when we customise the Modulation Matrix, creating motion to the sound. For example, you might want to make your bass sound more exciting by connecting one of the LFOs to the filter frequency or the "Wave Position" selector.

04

Finalise your sound

Finally, my personal favourite is the Unison area of Wavetable. This gives your bass sound the final finish, making sure the sound stands out from the arrangement. For a more retro sound, select "Shimmer" or add "Noise" to sounds that require more presence in the mix.



TALKING SHOP

Ataxia

The Detroit duo on their love of drum machines and the raw production approach behind debut LP, *Out Of Step*

Rickers and Ted Krisko are Ataxia, an electronic duo serving up a raw and unfiltered take on dance music that's inspired by formative years spent in hardcore and punk bands. The electrifying amalgam of house, techno, breakbeat and rave found on their latest release, *Out Of Step*, is produced using a formidable arsenal of analogue machines, pedals and outboard gear, along with a few strategically deployed stock plugins from their DAW of choice, Ableton Live. We caught up with the pair to delve into their creative process.

When did you start making music?

Ted: "Guitar in the early '90s was my initial swan dive into all the ruckus. Punk was the first route that had the most immediate gratification. Three chords, sometimes less, sometimes none. Early staples were Fugazi, Nirvana, Black Flag, Minor Threat, and loads of Beastie Boys jams. My cousin gave me an original ProCo RAT distortion fuzzbox – this set the pace early on. My bands recorded on Tascam 4-tracks relentlessly throughout my youth… oh how things come full circle."

Rickers: "I started making music genuinely when I heard *The Vans Song* by Suicide Machines circa 2002, although I think the original was released in '95. They inspired me to make music that was fun, purposefully lacking a 'seriousness' that would, by definition, destroy creativity. I played the bass guitar, that was the first instrument, and I was focused on making punk rock!"

Tell us about your studio/setup.

Ted: "We have a couple of spaces we work out of. Our main studio is in Detroit, the My Baby Records HQ… a space we share with our brother till the end, Mister Joshooa. Our collective runs the label and studio. We did a lot of damage out of the past version, but the space is currently under renovation to improve some aspects of the acoustics, and also to build soffits for our mains. Our approach is very modular, in a sense that everything lives on a patchbay, including, and maybe most importantly, the I/Os from the front end and console.

"We are constantly routing and re-routing pedals, rack effects, processing gear… it's a mess! [*laughs*] It's nice though, because we can introduce new equipment on the fly by patching into the console or soundcard on the bay, before making a full commitment as to how or if we will eventually include it in our setup. Although there's no arguing the utility of plugins, most of the work is outboard. On one hand, there is no problem with anything in-the-box, it's all about your ears and the decisions you make about what the sounds are like in your design. On the other hand, it's fucking amazing going knob-crazy in patchbay paradise.

"Our second space is a secret lair, stocked with a near carbon copy of the main studio, plus some extra processing and summing equipment, a full array of API outboard rack gear, and a dreamy boutique effects pedal setup: original Boss CH1 & BF2, Mu-Tron Phaser III, Ibanez AD9 Analog Delay with Robert Keeley Baked Mod, Fulltone OCD. Our guitar and bass rigs live here as well… jam station central!"

What DAW do you use and why?

Ted: "Ableton Live. On first take, the processes seemed very user driven as far as depth and control in terms of where to take your experiments. It was more complex than previous DAWs we had early beginnings with, like Fruity Loops and Reason. Richie Hawtin was using Live as a standalone DAW to produce, and as a virtual outboard effects rack for his DJ sets, and does to this day. We took a lot of inspiration from seeing a very in-the-box program used in a very out of the box way.

"Ableton really does have it all – you can set up quick experiments with effects or processing either in line, or through sends/returns, just a few clicks away from your next weird sound! As far as what's in the box, their instruments are quality stuff! Analog is an incredible plug for making a big warm bass tone quickly. In addition to their stock EQs and compressors, plugins like Tension, Operator, and of course the basics like Sampler and Simpler, are all extremely useful and perfect for working on music without needing external instruments or outboard gear at all.

"And for the noodlers, like us, Max 4 Live brings a whole modular world to the table that really gives users the power to design and deploy their own modules within Ableton's ecosystem seamlessly. Live has been a steady, reliable beast for us from the earliest days of Ataxia."

What one piece of gear in your studio could you not do without, and why?

Rickers: "The Roland SH-101, tried and true. This is the building block of almost every Ataxia song since we first picked up this juggernaut. There is no oddity this synth can't help you explore. We trigger the 101's internal

sequencer externally with an Elektron Analog Four's gate out – see our tips section for more on this!"

What's your latest studio addition?

Ted: "Handsome Audio's Zulu. It's a passive tape emulator. Transformer magic. It's kind of insane. We started by tracking with it, and quickly moved on to bussing and summing. The results have been extremely pleasing… it truly does what it says on the tin, tape flutter and wow without the hiss.

"We usually track on a Tascam 438 cassette machine, which is wonderfully fussy but sounds incredible. I can't see tape getting replaced at our studios in any permanent capacity, but for now, it's been nice running with something new that brings the music to life in a very similar way. The Zulu really does get the drums knocking, while smoothing out transients and getting the claps and hats to gel. Time will tell once and for all – will tape continue to reign supreme, or did Handsome Audio crack the code here?!"

What dream bit of gear would you love?

Ted: "A combo of the API 1608 loaded, along with the Studer A827 MCH 2-inch 24-track tape machine, all patched up and ready for controlled chaos."

Rickers: "Fuck, lots of things, that most likely wouldn't make music anymore fun. Honestly, my boy Chuck at Paxahau just got this Rigsmith Analog Dub Siren – it's tight, so maybe one of those next."

When approaching a new track or project, where do you start?

Rickers: "Drums are the core of Ataxia's vibe. Nearly all of our cuts circulate out of a drum machine riff. Our collection is pretty steep: Roland 909, 727, 707, 606, R8 and the Tanzbar MFB, Vermona DRM1, and Elektron's Rytm MK1 and 2, so we have a good deal of options for how to express that we are both the drummer. Although, despite the machines, sometimes it's just a good hip-hop or breakbeat sample to get up and running… whatever works!

"We tend to get something going on a monosynth next, usually the Roland SH-101. This is routed with a delay pedal in line, which generally helps the vibe for the notes to slap back a little. Polysynth-land usually involves the Sequential Prophet 6, another core Ataxia sound. From there it's vocals and automation – really not a very long process from start to finish for us.

"Once things take too long they stop being fun. When the fun stops, it usually sucks. The music we make relies on translating an energy to people on the receiving end, the goal is to get people to loosen up and have fun. Our punk roots really come through in our process – move quick, or it's dead in the water. Things that sit around never get finished."

What are you currently working on?

Ted: "We've just dropped *Out Of Step*, our debut album on Life And Death, an Italian label based in Miami, operated by our good friend DJ Tennis. It's a gatefold, double LP – 12 cuts, clocking in just under 80 minutes. Despite making music together for 13 years, and dropping dozens of singles & EPs, this is Ataxia's first venture into LP territory. It features good friends and fellow Detroiters Andrés, DJ Minx and Mister Joshooa. Give it a listen and leave a Yelp review.

"Past this, we have a nice follow-up on deck for Life And Death, plus new material forming for a return to 20/20 Vision, finishing a record for Mike Shannon's Cynosure. Cooking up something with Paul Woolford/Special Request tool. Artists and labels we hold in high esteem."

> "OUR PUNK ROOTS REALLY COME THROUGH IN OUR PROCESS – MOVE QUICK, OR IT'S DEAD IN THE WATER"

ATAXIA'S STUDIO TIPS

K.I.S.S.

1 **"Don't overthink 'making a hit' or 'writing a song'. For us, making dance cuts, it's about getting a groove going with a bit of kick, hat, snare… then immediately starting experiments with a couple of pieces of gear until you get something that sounds and feels good. A quick riff on a monosynth, some lush pads on a multi-voice instrument, a triggered sequence lead to coast on top, a tight vocal sample to sprinkle in here or there, and boom, you're off to the races."**

Trigger internal sequencers on your synths externally

2 **"Mathew Jonson did some lectures on his setup with the Cirklon triggering the internal sequencer on the Roland SH-101, and it changed the game for how we tackle the MIDI implementation throughout our studios' jam stations. In our studio, any device with a sequencer and a 'Trigger Out' becomes a deadly weapon, however complex, reduced to a simple task of sending pulse information to step the internal sequencers on synths like the 101 and Prophet 6. The connection happens with a cable from the external device's trig out, into 'EXT CLK IN'.**

"Sync your external device being used to send triggers to a MIDI clock from your session, and now you're in the pocket with a completely jazzy approach to jamming your note picks. This changes our approach to both how synths are used as modules, and as sequencers, and is a nice workaround, as you can even be triggering an additional synth that may not even have an internal sequencer of its own, but can benefit from being downstream from a MIDI cabling path with a synth prior to it."

Let the LFOs do the heavy lifting

3 **"Let a device make obscurities and randomness bring the elements to life. LFOs are technology's gift to us. Vermona's Filter Lancet is a supreme distortion box melded with a hard-ass LFO, switchable LPF/HPF, pre-volume circuit gain that can quickly overdrive the most sterile of samples into something interesting. Another irreplaceable gem would be the Sherman Filterbank, a major wormhole of odd filtering, modulation and frequency manipulation."** FM

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The Wiseguys **Executive Suite**

Wall of Sound, 1996

Back in the mid-'90s, a pair of record-digging sample hunters were looping up their funky finds. The expertly paired slices of soulful grooves, neck-snapping drums, and hooky rap acapella snatches rivalled any boom bap hip-hop beats from across The Pond – no mean feat for the time.

DJs Regal and Touché had earned their stripes tunnelling through stacks of dusty wax for their own brand of instrumental hip-hop. And they soon hit the radar of Mark Jones from the fledgling Wall of Sound record label.

He'd come across the duo, now known as The Wiseguys, when compiling tracks for his *Give 'Em Enough Dope Volume One* compilation album. The loose collection of tracks by like-minded artists produced a kinship, forging new styles that would later go on to be labelled trip-hop and big beat.

The Wiseguys straddled both emerging camps, with more of an ear for a catchy hook, and deeper record crates than the whole scene combined. Jones offered them an album deal, and work on *Executive Suite* began.

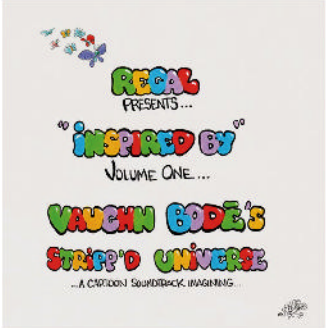
"We were both competent DJs," says Regal. "All the ideas came from the quite cheeky way we threw stuff together on the decks. It just doesn't make sense, if you analyse it. But, cutting it up on the turntables, it sounded great. We weren't afraid to mix things up a bit. And that's what we wanted to do when it came to making the album. It would be lots of different genres. Lots of ideas. And a great way to expose all these beats and samples we'd been finding."

It's an album of hundreds of loops, pieced together before modern technology allowed you to quantise and easily match keys together. It was a case of trial and error. And working relentlessly to make sure their beats were the freshest, and the samples they flipped, the rarest.

"You can't forget the competitive side of it all," says Regal. "You had to dig deep and pull out samples no one else had. There was so much stuff that we found during the making of the album that we had to lose, because by the time we got around to releasing the album, someone else ended up using it on their track. That was the thing about the whole process, back then. You had to hurry up!"

Words by Roy Spencer

Track by track with **DJ Regal**



DJ Regal is back in the lab, making beats. Following on from his tribute LP to the legendary graffiti artist Vaughn Bode, he's just finished work on the next musical project centred about his main influences. This time it's the pre-hip-hop world of spray cans, subway art, and more graffiti with the new album, *New York '72*. In it he takes apart all the Latin funky beats you'd hear when out and about with a can of paint, way back when in The Big Apple.

"I was working in Music & Video Exchange at the time. Theo [DJ Touché] would bring ten crap records to sell, and I'd give him like 500 pounds of vouchers to spend in store [*laughs*]. Total reverse blag. It was a great way to get samples to use. He'd dig out all these albums and put two giant stacks of records on the counter. You have to understand we have done our hard yards and we've served our time. You don't want to know how many crap records we've gone through to find the good stuff [*laughs*]."

Intro

"That was [DJ Touché] Theo's find, as far as the loop. And it's his cuts on there, too. And, for the beginning bit and the end I think he had some old children's *Star Trek* records that he used. Vocally, there was just a perfect little thing we used that referenced us both. So, we used that, going into the Moondog [sample]. I mean, that was pretty cool. And it was just something we, like, always wanted to use.

"So, that track came about pretty quickly. I would say it probably took about five minutes. But, it was a good five minutes."

Casino Sans Pareil

"Once we had the main loop and the chorus, and then threw under the James Taylor beat, it was like, 'Okay, this is pretty hot. We need to do this.'

"*The Good, the Bad and the Ugly* samples for the breakdown, which was me. The beat was Theo. Looking back on this album it's hard to remember who found what record because we shared them so much.

"The title means 'without equal'. There was a loose crew of us called No Equal. If you look on the back of the first Wiseguys 12" on Black Market, there's a logo for it."

The Sound You Hear

"Nice filtered bass on this. Early on, we discovered the best way to pull out basslines was to do a top and bottom pass filter, and combine the two. By doing that, especially if you're layering a bass back onto its original loop, you don't have to worry about maintaining that top end, because it's all about putting the strength on the bottom.

"Panik Studios had a rack piece that was great. The guy there would spin around in his chair and head to the wall of racks and it was like, 'Wow! What did you do? Keep it, keep it!'"

Room Service

"That was a thing that Theo did one night. I came back from a week away, I believe. And he was like, 'I did this'. And I was like, 'Sweet'. That was it. It took five seconds. It's just, fantastic. It's really cool. And it was just like, 'Yeah, it has to be on the album'.

"It's a skit. All our skits were kind of like palate cleansers or vibe changes. Like how Pete Rock would do. I mean, that was the biggest influence, for sure. And also, just showing off with our samples. We were young, back then."

We Keep On

"This features the rapper, Sense Live. He now goes by Ollie Miggs from Bronx Slang now.

"Skip back to '92 and he was over from New York and Theo got to meet him. Things happened very quickly. We made up some demo beats and he recorded a few songs, and this was one of them. We updated some of the samples by the time we put it on the album.

"We were really proud of the material we did with him. We got played on the demo sections of Choice FM and [Tim] Westwood, so that was a proud moment for us."

Nil By Mouth

"The lead track on our first single with Wall of Sound, using samples of Bob James and The Mysterons. We had a theme in mind. The idea was that someone in the song was comatose in a hospital bed.

"We were tapping into genres. So, in horror and thrillers you'd have this moody scene in hospital, you know? 'Is the guy going to make it?' It was a scene we could visualise. So, it was like, 'Let's go the whole nine yards, and make it clear what we're making the music for'. It was a very sombre track."

Trailblazing

"We were making a statement with this one, just flipping samples. We were really pushing the boundary with the loop placement. The oboe sample that's in there, from *The Rite of Spring*, I think. And the way it kind of weaves into the rhythm.

"It took a few tries to get that pitch speed correct on the turntable. But, then to make sure that it still was in key? We didn't even think about that. In the end, it just turned out to be in the same key, so we were very lucky."

Cromwell Street

"This was our horror track. It was all to do with the [Fred and Rose] Wests and the murder case. Then we just flipped a really fresh beat, which, at the time, hadn't been found or used. We wanted that beat to be pride of place. Looking back, I would love to go back and remaster that, just because the beats are so loud in the mix. There's so much detail that's lost. We just left it a little raw. So, some of the impact of the creepiness got a bit lost."

Sweet Baby Truth

"This features Sense Live and Tito-T, who was one of his crew in New York. Theo went out there to record them in '95. That was a Jimi Hendrix loop, using both the guitar and the bass parts. And that was a prime example of splitting the top and the bottom

end frequencies up. It really paid off. It's a lovely loop.

"Our love of loops comes from doing pause button tapes. We would give tapes to friends and after a while they'd be humming this stuff back to us. So, we knew it was good."

Poontang

"Our seedy '70s song! We went for the more laid-back 'smoked about ten bongs' vibe.

"On tracks like this we were also very hot on the arrangement side of things. We had to make sure every track had a verse and chorus-like structure to give the impression that it could have vocals in. We were always aware that at any time our arrangements could possibly have a rapper on. Therefore, they should be succinct, and to the point.

"Generally speaking, we were making instrumental hip-hop. Making instrumental hip-hop means you still have to have structure."

The Gemini IV Incident

"This was our space movie track. I was always gobsmacked by the moon landings as a kid. And then sci-fi movies like *Star Wars* and *Silent Running*.

"Theo had some Moon records. They were kind of dramatisations. I said I wanted to do a space-themed track and almost make a movie through a piece of music. I wanted you to put the headphones on, close your eyes, and watch the film in your head.

"Then we made it as dark as possible. I mean, I put [German rock band] Faust in there for Christ's sake! My favourite track on the album."

Caribbean Breeze

"This features Joey Bunsen and Season, who were also from Sense Live's crew. And this track is them giving props to their background.

"I had the main loop we used on this for years, on a loop tape, and I always loved it. But, nothing really went with it. And then when we got serious about the album, we went back to it and we found bits that fit over it.

"Theo went to New York. He'd already sent a tape of loops to them. They picked up on this, and came up with this holiday record, if you like."

Water

"We wanted to do something mellow. But, at the same time, we had some beats that we needed to flip into something fresh. It's us flipping a dope beat which only heads will know to this day. What we wanted to say was, 'Hey, if you want to dig, you gotta dig deep'. So, we dropped the beat we dropped, and went for the water vibe. And it just seemed to work. It clicked. It was like us doing the whole sort of library record thing.

"And then, you know, just cut up some EPMD on top, and it just seemed to work."

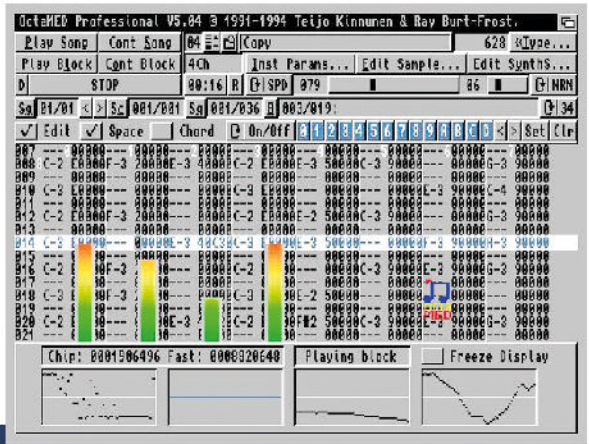
Dust You Off

"We used Black Sabbath. Why not? Time to flip a classic beat. In hindsight, it's possibly one of the weaker tracks. I'm not afraid to admit it. I love the album. Most of it stands up. Some doesn't. Some of the ones I love don't even stand up, but that's more for technical issues. We just thought, 'We've done all this work'. We were precious about it all. There's so much work going into each track, so you can't dismiss them flippantly. I'd never do that. But, I think, hand on heart, some of them could have been just given a bit more attention."

Too Easy

"This is the one that sealed the deal for us. We went around [label mate] Jon Carter's place and recorded it, and had great fun. It was just one of those tunes that was already sounding great. And then we came up with the vocal hook and it was like, 'Wow. Are we going for the radio or what?' We knew it worked.

"Wall of Sound did a semi-launch night for us and a couple other acts. And this was one of the biggest tunes of the night. And that's not me bragging. Sometimes music just comes together." FM



In the studio with DJ Regal

"To start, the space was at the top of Theo's (DJ Touché) house. I lived there for a year, prior to recording. We ate, drank and slept there.

"We used a very basic Amiga computer with a [Microdeal] MegaloSound [8-bit stereo soundsampler]. That was the connecting thing between our setup and the computer. Then I think we used an OctaMED [music tracker sequencer program]. Well done to Theo, he learned to use it.

"To make the tracks we'd be playing records on the decks, and take turns doing the tape looping.

"When it came to recording the album we mainly used Milo and Panik studios in London. There were rack-mounted filters, Akais, and 909s and 808s for the boom bap. But, the thing is, they didn't have our setup, so we had to re-write everything. Some of the very minute detail of how we arranged our loops got changed, or even lost, when transposing. Because there's just some things you just couldn't replicate in their Cubase, or whatever it was at that point."

WANT TO KNOW MORE?

For all the latest news on his *New York '72* album, and any other forthcoming beats and breaks, hit up: **instagram.com/djregaluk**

LIKE IT? TRY THESE...

The Wiseguys
The Antidote

DJ Regal had left the group by the time of this '98 follow-up, leaving Touché to make the album and its global smash hit, *Ooh La La*.

ADD THESE TO YOUR PLAYLIST:
'Ooh La La', 'We Be The Crew…', 'Cowboy '78'

Bronx Dogs
Three Legged Funk

DJ Regal joined forces with Richard Sen in '97 for this new beatmaking outfit, to much acclaim.

ADD THESE TO YOUR PLAYLIST:
'And The Letters Spell?' 'Tribute To Jazzy Jay', '77'

Regal Presents…
'Inspired By' Volume Two: New York '72

Brand new concept album on the Lexington 144 label, exploring Regal's love affair with early graffiti and the Latin funk breaks of the time.

ADD THESE TO YOUR PLAYLIST:
'Spanish Harlem Breakdown', 'Red Steel Canvas', 'Ballad Of Barbara & Eva'

Fake Blood
Cells

In 2007 Theo took on a new name, and hit us with some killer house and electro, culminating in this 2012 LP.

ADD THESE TO YOUR PLAYLIST:
'Yes / No', 'Phantom Power', 'End Of Days'

Bronx Slang
Bronx Slang

Heavyweight hip-hop from Sense Live's new crew. This 2019 self-titled banger was co-produced by Theo, too.

ADD THESE TO YOUR PLAYLIST:
'Run Away Sucker', 'Freeze, Music Please', 'Ladies & Gentlemen'

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GEAR OF THE YEAR

2022

We crown 2022's finest synths, software, studio gear and more

In music technology terms, 2022 has brought both highs and lows. On the positive front, we've seen the return of a synth design icon, with Tom Oberheim finally making a proper return to the market with the launch of the long-hoped-for OB-X8. Sadly, we've also lost a legend of the synth world with the passing of Dave Smith – a true innovator whose influence will live on, not least through his final instrument, the Trigon-6, which is due to arrive early next year.

In many ways, it's been a slightly slow year for gear releases, due largely to the same supply chain delays that have plagued tech brands of all ilk all year. Some instruments announced before we'd even entered 2022 are still yet to hit the mass market – the likes of Korg's Drumlogue and Erica Synths' Perkons are both, slowly, making their way to the market, although you're unlikely to be able to get your hands on one just yet.

That bleak outlook doesn't tell the whole picture though. 2022 has still brought us a mass of hugely exciting new creative tools, with the software realm being particularly exciting. Join us over the next few pages as we crown our favourite synths, software, modules, studio gear and more.

YOUR FAVOURITE GEAR!

You've been voting in your thousands over at MusicRadar to tell us your 2022 gear picks. Head over to bit.ly/MRGOTY22 to see the results!

Oberheim's long-awaited OB-X8 is far from a straight emulation, introducing a host of new features too

Synths in 2022: past vs future

Are we still obsessed with vintage synths, or is digital becoming the new analogue? The jury's still out...

The modern synth market has quite an obsession with the past. Between a seemingly endless carousel of reissues, clones and emulations, with the fetishisation of analogue technology over digital advances, it often feels like the bulk of new releases are aimed at revisiting some bygone heyday of synth design. For something as forward-thinking as making electronic music, the gear we use is often anything but.

In 2022, however, it feels like that might be beginning to change a little. It's still true that several of our favourite synth releases from this year have ties to some vintage instrument or other, but it's becoming increasingly common that even the more retro-minded instruments are aiming to put a modern spin on their classic sounds. Perhaps we've reached the point where access to classic '70s and '80s sounds of Roland, Moog, Yamaha et al is so widespread that users now expect something more than a straight sample, emulation or approximation.

Oberheim's OB-X8 is a great example of this. This long-awaited return combines the sound engines of a trio of Tom Oberheim's classic synths in a single box, taking influence from the OB-X, OB-Xa and OB-8. It's far from a straight emulation though – it allows users to mix and match design elements of the original, but by supplementing the analogue signal path with digital control, it also introduces a host of new modulation capabilities.

It's worth talking about Roland too. Few brands have put so much emphasis on revisiting their legacy as Roland have in recent years, with the Boutiques, Airas and Cloud plugins all offering a multitude of ways to access sound from the company's iconic instruments. Recent focus has largely been on instruments that use the brand's ZEN-Core engine, such as the Fantom-0 range and Juno-X. The curious thing about these instruments is they're all centred around the exact same set of sample-based sounds, but each is differentiated by the hardware used to interact with them, as well as supplementary features and instrument models.

> EVEN THE MORE RETRO-MINDED INSTRUMENTS ARE PUTTING A MODERN SPIN ON THEIR CLASSIC SOUNDS

Our favourite Roland instrument of 2022, however, isn't ZEN-Core powered. It's the latest in the Boutique range, the JD-08, which takes as its inspiration one of the company's most fascinating '90s synths, the JD-800. A close relative of the D-50, the original was a no-compromise digital synth, here downsized into a compact package without sacrificing its massive sound.

Arguably the year's most old-school synth isn't inspired by vintage gear at all. Malevolent, from new British brand PWM, has the feel of some forgotten classic from the early-'80s, down to its all analogue signal path and joystick controller. You might think it's being retro for the sake of it, but the sound engine oozes gritty, lively character.

Our pick for the top synth of 2022 combines elements of analogue and digital. Arturia's MiniFreak isn't the most ambitious or deep hybrid synth on the market right now, but you'll be hard pressed to find a more versatile combination of approaches in a single instrument, from Karplus-Strong to comb filtering, via virtual analogue, formant synthesis and wavefolding.

6 MUST-TRY SYNTHS FROM 2022

BEST NEW SYNTH

ARTURIA
MINIFREAK

1 Arturia's latest hybrid synth is, in essence, simply an upscaled version of the MicroFreak from 2019, doubling the number of digital oscillators and increasing the polyphony to a full six voices, each with its own analogue filter and VCA. In practice though, MiniFreak is more than a sum of these parts. These dual oscillators allow users to mix and match digital synthesis approaches like no other synth, combining elements of virtual analogue, FM, Karplus-Strong, noise, voice synthesis and more, and even processing one digital engine with the other. Kudos to Arturia for creating a design that keeps all this functionality up-front and ready for hands-on tweaking.

arturia.com

BEST ANALOGUE SYNTH (OVER £1,000)

OBERHEIM
OB-X8

2 Honestly, we could have told you that the OB-X8 would become a future classic before we ever even heard it. The signs were all there: a return to the market from design icon Tom Oberheim, with assistance from – now sadly departed – Dave Smith, to create a synth that blends the best of the OB-X, OB-Xa and OB-8… It was never going to be anything but great, was it? Sonically, the result more than lives up to the hype, and modern design touches help make this far more than a nostalgia piece. The only thing holding it back from perfection is that price point, which feels justifiable given the quality, but unfortunately means most of us will never own one.

oberheim.com

BEST ANALOGUE SYNTH (UNDER £1,000)

PWM
MALEVOLENT

3 When a synth manufacturer boasts about their instrument's analogue purity, it's often worth taking it with a pinch of salt. Despite how much we fetishise the circuitry of vintage synths, 'analogue' doesn't necessarily equate to 'good'. With Malevolent, however, British newcomers PWM have created an instrument that not only feels justified in boasting its analogue credentials, but exemplifies precisely why people value analogue synths. This semi-modular monosynth is a gritty beast of an instrument, oozing character and unpredictability in all the right ways.

1pwm.com

BEST COMPACT SYNTH

KORG
VOLCA FM2

4 On paper, Korg's Volca FM2 looks like a fairly minor update to a compact synth that's been around for years. Place the FM2 side by side with the original, and it's not immediately obvious what, if anything, has been changed. In reality though, this is a killer revamp that soups up the original in all the right places, significantly expanding the polyphony, improving the MIDI capabilities and adding an icy digital reverb that suits the sound of the FM down to a tee. The Volca FM has long been one of our favourite budget synths, but it's now an absolute must-have – fully living up to the promise of having a truly pocket-sized DX7.

korg.com

BEST SYNTH REVIVAL

ROLAND
JD-08

5 Roland have delivered so many Boutiques in recent years that it's easy to let them pass you by in a blur of nostalgia. Of all the revivals though, the JD-08 is one worth noticing. Based on the digital engine of 1991's JD-800, this takes the mammoth sound of one of Roland's most ambitious instruments and stuffs it into a tight, compact package. While it's arguably a bit small and fiddly given the power under the hood, it's hard to knock a sound this big for the price.

roland.com

HONOURABLE MENTION

1010 MUSIC
NANOBOX LEMONDROP

6 1010's compact yellow wonder packs a polyphonic granular synth into a palm-sized instrument. By rights, this amount of power in such a small package should be a fiddly nightmare, but somehow this works. It sounds gorgeous too – and far bigger than it looks!

1010music.com

NOVATION CIRCUIT RHYTHM

What's better than new gear? A significant free update to something you already own. Let's celebrate 2022's best freebies

We're in the midst of a cost of living crisis, meaning that most of us are looking to make whatever we have to spend on our music making stretch as far as possible. While it's undeniably exciting shelling out on something new for your studio, it's hard to beat that feeling when something you already own receives some major new features for free. While 'point release' and 'firmware update' aren't typically phrases that spark excitement, at their best these can breathe new life into existing products with fresh sounds and transformative new features. So what product's users have done best out of 2022's freebies?

Novation have long been a brand that know how to keep a product alive with regular updates. The original Circuit groovebox, for example, evolved considerably over the course of its lifespan. The latest of the brand's lineup to receive some love is 2021's Circuit Rhythm – the Circuit range's sample-focused beatmaker.

We liked the Rhythm upon its initial release, but never quite fell for it in the way we did its Circuit Tracks counterpart. The 2.0 firmware update has us excited to rediscover its capabilities though. Headline additions here include the ability to beatmatch samples to project tempo – which vastly improves the device's ability to work with loops – plus the ability to record fixed-length samples, reducing the need to edit start/end time. Version 2.0 also lets users get under the hood of the instrument's Grid FX. These punch-in processors were already a great way to add performative expression to grooves, but users can now edit the parameters of each using Rhythm's macro controls, meaning they're less 'one-size-fits-all'.

It's also worth highlighting the wealth of free sample packs that Novation have been dropping, for use with the Rhythm and other instruments, as part of the brand's 30th anniversary celebrations. For those that picked up the groovebox on release, it's certainly a welcome trove of free content.

Notable mentions...

VALHALLA DSP, SUPERMASSIVE

Arguably the best free plugin out there, Supermassive is a transformative reverb/delay, now equipped with a pair of new-for-22 algorithms adding more realism to the sound palette.

MOOG, SUBHARMONICON

A minor update, but MIDI pitchbend and note transposition add considerably to the wider usability of Moog's experimental synth.

ROLAND, TR-8S/TR-6S

The star players in Roland's Aira lineup gain a fresh batch of FM tones, some new effects and probability-based sequencing.

The state of software in 2022

AI and Spatial Audio might be the future, but we all still love a retro synth or two…

Spatial Audio and Dolby Atmos were the key buzzwords for software at the start of 2022, and sure enough, Logic's 10.7 update came packed with plenty of immersive options, and all implemented with the ease that only Apple can muster. But as to the future of Spatial Audio/Dolby Atmos, there are probably as many producers currently flying the flag for it as there are those lowering it.

In terms of orchestral music production, the big guns of Spitfire Audio, EastWest, Heavyocity and Orchestral Tools have already released just about every kind of title you can imagine, so what was left for 2022? Spitfire took more maudlin and ambient paths with titles like Heirloom and Resonate, while OT travelled organic and atmospheric roads with Habitat and Drones. Heavyocity simply destroyed the orchestra altogether with Symphonic Destruction, and EastWest went off world and back in time in search of their alternatives with Forbidden Planet and String Machines.

Of course the world of the software subscription expanded further in 2022 – SSL, NI, UVI and many more are onboard – but UA now have one of the best in the form of Spark and a subscription which doesn't require their hardware. But we wonder how much the cost of living crisis will cause people to reconsider what's dripping out of their accounts each month – it all adds up.

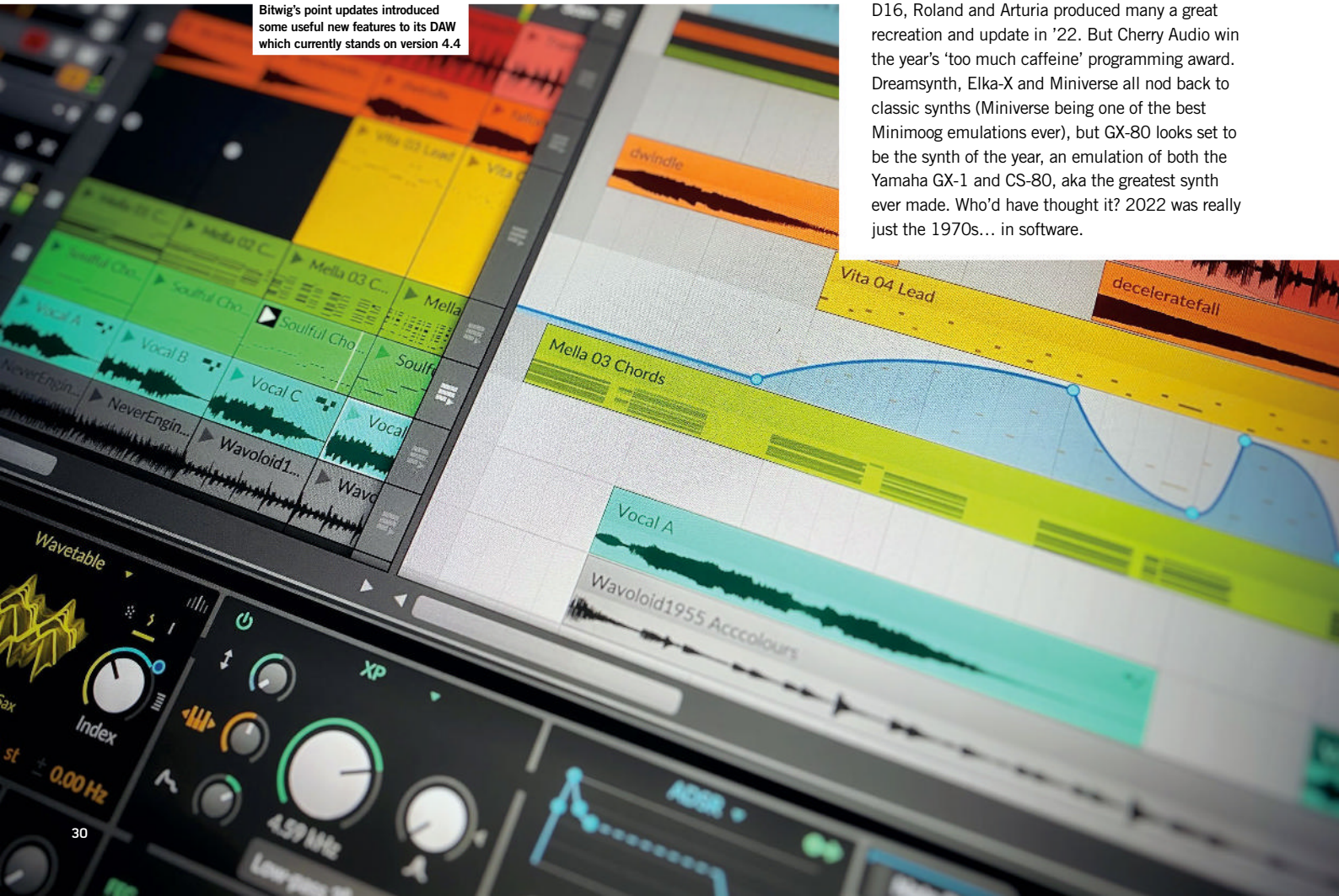
What you really need instead of a subscription is a DAW that delivers everything in one package, but big updates on this front were thin on the ground in 2022. Bitwig did a few dramatic point updates (the less said about the rollout of Spectral Suite, the better), and Logic too added some points and that Spatial Audio. But it was left to PreSonus (Studio One 6), Tracktion (Waveform Pro 12) and Steinberg to do the biggest and best releases – with Cubase 12 being one of the strongest updates in recent times.

> AI, PERHAPS THANKFULLY, HASN'T COMPLETELY TAKEN OVER OUR PRODUCTIONS JUST YET

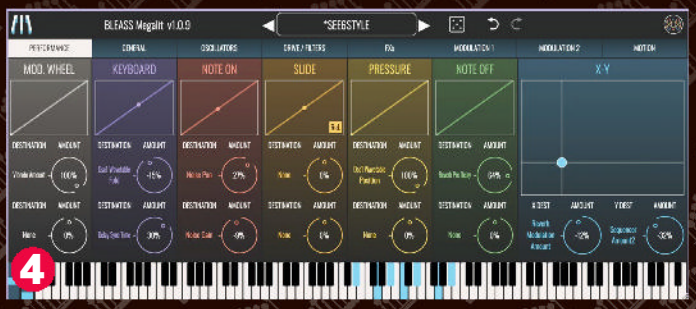
The award for the 'seemingly coming out of nowhere' developer goes to BLEASS who might insist on their name being capitalised but also produce great plugins. Dragonfly was their first of the year, a £25 understated modulator, and Phase Mutant, an innovative FM distortion plugin, soon followed. But Megalit, which closed the year, is the monster wavetable synth that could put the company on the map in 2023.

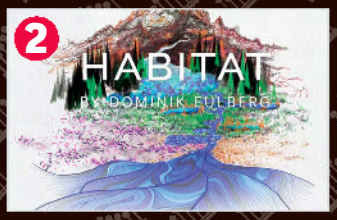
AI continues to make inroads in music production. On top of all of the assistance that anything iZotope makes will bring, developers like Mastering The Mix (Reso) and Mixed in Key (Live) are just two with the word 'Mix' in their names that help you, well, mix. And while Audiomodern's Playbeat 3 and EZdrummer 3 both boot your drummer out of the band forever, AI, perhaps thankfully, hasn't completely taken over our productions just yet. And if we're honest, it's still the great big synth releases that impress us more than anything AI, and thankfully 2022 had plenty…

Old synths continue to be reimagined in software – will it ever end – and GForce, Softube, UVI, D16, Roland and Arturia produced many a great recreation and update in '22. But Cherry Audio win the year's 'too much caffeine' programming award. Dreamsynth, Elka-X and Miniverse all nod back to classic synths (Miniverse being one of the best Minimoog emulations ever), but GX-80 looks set to be the synth of the year, an emulation of both the Yamaha GX-1 and CS-80, aka the greatest synth ever made. Who'd have thought it? 2022 was really just the 1970s… in software.



Bitwig's point updates introduced some useful new features to its DAW which currently stands on version 4.4





6 ESSENTIAL PLUGINS FROM 2022

DEVIOUS MACHINES
INFILTRATOR 2

MAC/PC

1 An update to an already fantastic multi-effect (and a free one for v1 owners), Infiltrator 2 takes the modular effect ethos up a few bars, offering 56 effects modules to slot into up to ten available spaces. Outstanding features include extensive modulation and fantastic real-time controls, not to mention a 32-step sequencer for even more evolving sounds. Throw in some incredible filters, time manipulation modules, granular effects and heavy distortion, and this could well be the all-in-one creative toolbox you didn't know you needed.

deviousmachines.com

ORCHESTRAL TOOLS
HABITAT

MAC/PC

2 Created by OT and music producer, biologist, conservationist, artist and author Dominik Eulberg, Habitat could be seen as a library of found sound recordings, but it's way more than that. Eulberg throws a Prophet-5, Jupiter-8, Moog One and Deckard's Dream into the mix, and extensive controls allow users to create incredibly atmospheric textures that can sweep between natural and electronic. Not exactly an EDM monster, but if soothing textures are your mindful dream – and why not – then Habitat is where it's at.

orchestraltools.com

TOONTRACK
EZDRUMMER 3

MAC/PC

3 EZdrummer lies in the heart of an enormous and growing ecosphere of sample expansion packs and MIDI files that can – given its girth – sometimes detract from the original software. But EZdrummer, and especially the latest v3 incarnation, can be not only your drummer but any band's drummer, turning whatever micro beat idea you have into a complete drum track in no time. Forget any drummer jokes – in fact just forget your drummer – because EZdrummer does everything you would expect and a lot more you wouldn't. Sorry humans, this is one-nil to the future.

toontrack.com

BLEASS
MEGALIT

MAC/PC/IOS

4 BLEASS Megalit has a conventional subtractive architecture: three oscillators, noise generator, low- and high-pass filters, modulation options, plus effects. However, two of the oscillators deliver over 120 wavetables covering a huge range of sonics. Add a Fold function that allows you to alter wavetables, combine it with heavy modulation, and you have a synth capable of creating huge evolving and dynamic sounds. And while 2022 saw many recreations of classic synths, Megalit looks and sounds completely new.

bleass.com

BABY AUDIO
CRYSTALLINE

MAC/PC

5 2021 was very much Baby Audio's year for software development, and this spilled over beautifully into 2022 with several releases including this algorithmic reverb. Where Baby Audio score is by removing some of the tech fluff, so the UI here might not be as you'd expect, but the four main areas – Reflections, Depth, Clean-up and Transient – simply focus on the music in as easy to use a way as possible. Crystalline encourages tweaking but, most importantly, creates great sounds with the user always in control.

babyaud.io

CHERRY AUDIO
GX-80

MAC/PC

6 When Cherry Audio created a pastiche of *Blade Runner* as a teaser to their forthcoming synth, saying they were "synthesizing the greatest replicant of all time", there was only one machine they were (re)introducing: the Yamaha CS-80 employed by BR soundtrack legend Vangelis. Cherry's GX-80 combines parts of its forefather, the GX-1, and all of the CS-80 to create the ultimate software CS-80, a synth with surprisingly few software emulations (Arturia's CS-80 V being one). Our review is just in and, as you might expect, Cherry Audio have done a stellar job. This is the 'C-Beam' of synths, make no mistake.

cherryaudio.com

8 MUST-HAVE MODULES FROM 2022

There has been less of an established theme in Eurorack 2022, unlike 2021's race for granular superiority, but there have been key moments. Massive shimmering reverbs have continued to be a source of much enjoyment and a few new modules have surfaced, but really 2022 has been a year of making more utilitarian modules a bit special by adding extra features. Nowhere is this more obvious than the rise of Knobula, who have released two astonishing modules that really are far more than the sum of their parts.

We've also seen more in the way of new methods of interacting with our modular systems, be it by light probes, or outboard gear. Mod and pitch wheels on controller keyboards are great but they have the clear limit of how many digits are free to operate them, so why not bring the feet into the equation?

It's clear that 2022 has been a great year for Eurorack, with an abundance of interesting and useful modules coming our way. Let's hope this continues into 2023.

STRYMON
STARLAB

1 Reverb modules are ten a penny, but Starlab is a thing of sonic beauty. It covers a huge amount of ground, from short sweet rooms to expansive spacey soundscapes, with options for sumptuous shimmer and a glimmer of harmonic content, granular reverbs and much more. It has a Karplus-type voice as well as modulation built in via filter and LFO. It's easy to integrate, as patch points abound, and comes packaged in Strymon's excellent build quality.

KNOBULA
KICKAIN

2 Kickain is a novel approach to sidechain compression for Eurorack. The kick drum part of the module is excellent and can be tweaked to suit most needs but where this module really shines is in the interaction with the rest of a patch. Take a mix, or part of one and plug it into Kickain where you can apply one of three modes of sidechaining. These all have different flavours of compression to get the most out of your particular mix. It's ostensibly a really simple module

but what it does must be some form of sorcery.

QU-BIT
AURORA

3 It seems unlikely that two reverb modules should appear on this list but Aurora is a totally different beast than Starlab. What makes this so special is its ability to change the incoming audio in unexpected ways, while remaining controllable and just plain rewarding. The engine can warp the sounds in some magnificent, time-bending ways. Yes, you can produce some lush reverbs but add in the time-reversing, stretching and freezing and you have a module capable of some extreme end results. All of which comes packaged in a clear but beautiful module that always seems to stay sounding sweet and musical, despite its digital nature.

ADDAC SYSTEM
ADDAC311 FOOT PEDAL

4 The 311 is a stroke of genius, opening up Eurorack for a wealth of foot controllable expression. With connection for up to ten expression pedals, as well as controls for how they interact with a rig, the 311 frees up hands and valuable hp for further modulating a patch. Keeping almost everything off the floor is done by sending signals through a single cable into a small 8hp module, which houses all the patch points. It's a clever, clean, well-thought-out design.

SEBSONGS
EUCLIDEAN

5 Rather than a traditional sequencer method of generating patterns it can sometimes be more creatively pleasing to take a more experimental approach, relying on happy accidents, and this is where Euclidean comes in. It's a nicely sized, cleanly designed module that offers some smart features to get great results. Euclidean patterns are nothing new but this is a rather good implementation, with a really useful grid of LEDs to help you navigate, as well as a single control for adjusting each of the three, variable length sequences. This Arduino-based module is DIY but not a difficult build at all.

MOOG
MAVIS

6 Billed as a DIY module, the Mavis is one of the least taxing build projects you'll encounter. So don't be put off, but do be excited for some of the tones and flexibility on offer here. Mavis sounds typically Moog in a lot of ways with a great sounding VCO and ladder filter. However that is only part of the story as Mavis offers a lot of features for the price. The patchbay is home to some interesting options for sound design and mixing but Mavis is also the first Moog to feature wavefolding, giving an extra dimension for generating new sounds. Oh and it can be a standalone instrument too!

KNOBULA
POLY CINEMATIC

7 Poly Cinematic is up there with the best voice modules. It brings eight-voice polyphony to Eurorack in a tiny 12hp package and is so much more on top of that. For users with really small rigs this is a no-brainer, offering filtering, envelope generation and even onboard reverb, making this a wonderful sounding and capable mini synth. It can play chords too, via a MIDI input. Use a mod wheel on a controller keyboard to change chords! The voices can easily be manipulated between straight-up unison, through fifths and on to a full octave, for subtle fatness or full-on gnarliness. Each of the three waveshapes has three modes and you can easily coax soft pads and organ sounds to screaming grit out of it. A very special module.

EBASHI
TRIPLE LFO

8 Some modules are harder to get excited about based on first impressions but the Triple LFO is one that has more about it than you see at first glance. Firstly it can act as a voice, with potential for some lovely wavefolding type tones, but it has a magic trick. The outputs, including the mixed out, are all duplicated on the rear of the module, so modulations can be essentially doubled, with the copies being run back to the front for other uses, saving the need for stackables or mults. A truly useful modulation source and voice option in one. It's also built really well and feels great in use.

BEST GROOVEBOX

POLYEND PLAY

Polyend's performance groovebox, Play, is some of the most fun we've had with hardware, with its open and inspiring sequencing workflow

Despite being a relatively young company, Polish outfit Polyend have now firmly established themselves as a brand who create gear that sits a little outside the mainstream. In the Eurorack realm, that has involved tackling concepts like preset saving and portability – neither things we tend to think of associated with modular rigs. In terms of standalone hardware, Polyend's most significant release before this year was 2020's Tracker, a hardware sampler that took its basic ideas from Amiga-style tracker applications like Renoise. It's a concept that few would have imagined being a success, but Polyend pulled it off with aplomb, creating something that appealed to die-hard tracker heads and modern music makers alike.

Their latest hardware instrument, Play, isn't quite so esoteric, but still does things a little differently to other grooveboxes. The key principle here is openness – Play's grid-based sequencer allows users to place one-shot samples on any step or track across its grid and apply total sound changes and wild effects to each individual step. While Play doesn't match Tracker's sampling or synthesis capabilities, its appeal lies in the ability to independently sequence its internal sample engine and multiple tracks of MIDI for controlling external hardware. What's more, it's an absolute joy to perform with, thanks to a wealth of creative features such as multiple per-track variations, hands-on randomisation, self-generating fills and a whole grid's worth of punch-in effects.

In terms of sampling and sound shaping there are certainly more advanced instruments on the market, but when it comes to inspiring and creative sequencing, Polyend Play is some of the most fun we've had with hardware in recent years. A great centrepiece for a hardware-focused studio setup.

TRY THIS...

Despite their differing approaches to sequencing, Polyend's Play and Tracker make winning bedfellows, allowing the first to sequence the latter like a polysynth.

Notable mentions...

TEENAGE ENGINEERING, OP-1 FIELD

It's now objectively too expensive, but it's still hard not to love the weird, creative OP-1. This update is an across-the-board improvement, looking more stylish, with a stereo signal path and all sounding better thanks to a major upgrade to the built-in speaker.

ROLAND, AIRA COMPACT RANGE

Not quite as powerful or fun as the TR-8S or TR-6S, Roland's latest Airas are nonetheless great value and still nail that heritage sound. The T-8 is our pick here, combining those staple TR drum sounds with a handy little bass synth.

BEST PERCUSSION SYNTH

ELEKTRON SYNTAKT

Elektron's instrument lineup in recent years has touched on both analogue and digital technologies. In the former camp, the likes of Analog RYTM, Keys and Heat have each taken classic synthesis and effect approaches and housed them in a modern format complete with complex sequencing capabilities. On the digital front, meanwhile, Digitone and Model:Cycles have both put a modern spin on FM synthesis, particularly when it comes to embracing the format's oft-overlooked appeal for designing drums.

Syntakt, then, is almost like a greatest hits of these approaches. It marries sound generators based on RYTM's analogue percussion synths with expanded versions of those found in Cycles. The result is a wonderfully varied and fun groovebox with its own sonic palette, that hits hard for drum creation, but does a fine line in melodies and basslines too.

Throw in a mix of analogue and digital effects and – of course – the complex sequencing that's Elektron's stock in trade, and you have a machine that nails everything we've come to love about the Swedish brand.

TRY THIS...

Syntakt's sequenceable effects are a fantastic tool for glitchy rhythms and moments of ear candy.

BEST STANDALONE

AKAI PRO MPC KEY 61

Akai's MPC range has taken a multitude of forms over the years. The early, sample-based production stations gradually become more complex, giving way to controller/software combos that mimicked NI's Maschine range, which were eventually replaced once again by standalone units in the form of the excellent MPC Live, X and One. Something we'd never seen until 2022, however, was an MPC with a keyboard attached.

The MPC Key is more than just a playable sampler though. Like its siblings in the current lineup, this latest instrument can run a near fully-featured version of the MPC 2.0 software on its internal CPU, giving access to both sample recording and sequencing, an expandable array of virtual instruments, a multitude of effects and DAW level sequencing and editing.

If you're a player looking to write and perform full tracks without a DAW, this is probably the best option out there right now.

TRY THIS...

Despite putting emphasis on the keyboard, Akai's legendary MPC pads are still present and correct. Want to blend playing and finger drumming on stage? The MPC Key might be just the ticket.

Notable mentions...

AKAI PRO, MPK MINI Mk3

Version 3 of what is, according to its creators at least, the world's best-selling MIDI controller. It's not hard to see why this would be another popular choice, thanks to a combination of solid quality and a decent variety of controls.

ARTURIA, MINILAB 3

The MiniLab is a top-quality controller that is best when powered up by the full version of Arturia's excellent V Collection. It's also, we're told, now the most eco-friendly option, which is worth applauding.

NOVATION, FLKEY 37

After years of being curiously underserved on the controller front, FL Studio users finally get a controller properly suited to helping them achieve their creative ambitions. A must-have device for Fruity fans.

BEST HEADPHONES

RØDE NTH-100

Despite being best known for their mics, Røde have spent a fair amount of time over the past few years branching out into new territories such as audio interfaces and podcasting gear. The NTH-100s are the brand's first headphones, and they're a knockout.

The uniquely-shaped, memory foam ear cups offer brilliant comfort for long studio sessions, and the headphones offer a stable but relaxed fit. The sound is equally impressive too, producing clarity with an assurance that you can go about monitoring, mixing and mastering with a sonically faithful representation of your sound.

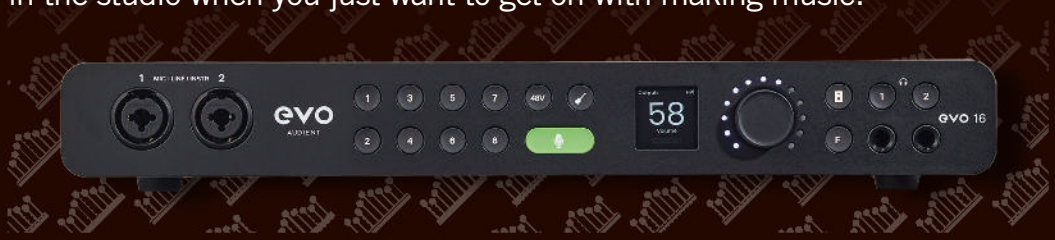
An excellent offering at this price point – one to add to your must-try list.

BEST INTERFACE

AUDIENT EVO 16

Audient have been consistently impressing us with their interface lineup in recent years, whether that's the workhorse ID range or more recent budget offerings like the compact EVO 4. The new EVO 16 sits at the top of that range, sharing a number of the accessible and versatile features of its budget counterparts but with a vastly increased quantity of inputs and outputs. It sits at a very appealing point in the market – with a street price under £400, the EVO 16 offers a winning amount of I/O for the price, and the sort of convenient functionality that you often don't get on this level of interface.

Whether used with the EVO software app, or well-designed array of front panel controls, this is a slick, simple interface that will stay out of your way in the studio when you just want to get on with making music.



Notable mentions...

PRESONUS, R80 MONITORS

Their ribbon-based tweeters might not suit every taste, but they make these latest R80s from PreSonus a great choice for small studio spaces, particularly combined with the handy, improved EQ controls.

BEYERDYNAMIC, DT 700 PRO X HEADPHONES

Not the cheapest or most portable set of headphones, but nonetheless these are a top-quality set of cans from one of the most well-regarded names in the sector. They feel comfortable, and sound powerful but trustworthy. Exactly what you need!

SE ELECTRONICS, NEOM USB

Historically, we've often written off USB mics as being 'consumer level' gear – fine for things like podcasting or recording video, but not up to scratch for music. With the excellent Neom, SE prove that to be wrong. This can handle vocals, guitar, percussion and more – at a great price point too.

BEST MIXER

SSL BIG SIX

SSL's latest home studio mixer follows in the footsteps of the two-track SiX in bringing console quality to project studios – at a price

SSL's original SiX mixer landed in 2019, taking the top-quality analogue channels renowned from the company's legendary studio consoles and distilling them into a two-channel device aimed squarely at home users. We loved the SiX at the time, raving about its sound and build quality, but it wasn't without some weak spots. The most significant of these was a lack of any kind of audio interface, which meant that small studio users would still need an additional device to sit between the SiX and a DAW.

Three years on, SSL delivered the BiG SiX, a mixer that, as its name makes somewhat obvious, expands on the functionality of the SiX in a number of important ways. Firstly, it adds in that interface, offering 16 channels of audio streaming directly to/from your DAW. BiG SiX significantly ups the available track count too, with four mic/line channels and four stereo/dual mono channels.

Of course, the big sell when it comes to both SiX mixers is the ability to capture that SSL console magic in a home setup. That comes through here with thanks to the console's excellent channel dynamics processors and the 'essential' version of SSL's legendary G-Comp. That latter element gives access to one of the most sought-after and emulated bus compressor designs, renowned for its ability to tie groups and mixes together with its automatic release length setting.

There are other appreciated features too – plenty of flexibility for monitoring, sizeable faders and meters, quality three-band EQs on each channel. It all adds up to a flexible and quality package.

Of course, the elephant in the room is the price. Coming in at a little over £2,000, SSL's BiG SiX is far from the cheapest mixer out there – you can pick up a 16-channel mixer for a fraction of the price, if you look for a cheaper brand. However, you undoubtedly get what you pay for here, which is the quality and processing sound SSL are known for. This is the closest you'll get to working with a proper studio console in your home studio.

Notable mentions...

UNIVERSAL AUDIO, UAFX AMP MODELLERS

UA have been increasingly moving into the guitar realm over the past decade, and their first run of stompboxes impressed us last year. 2022 saw them follow up with a range of quality amp emulations that are a perfect, compact addition to a tight studio setup.

IK MULTIMEDIA, X-GEAR PEDALS

Another notable software brand bringing their technology to the stompbox realm, IK's X-Gear range offers quality, classically minded effects to the hardware realm in a format that's handy for guitarists and synthesists alike. FM

SAOIRSE

A born-to-be radio host and DJ, Saoirse's switch to production came just as naturally. **Danny Turner** explores her hard-hitting, bass-driven sound

From an early age, Saoirse was infatuated by the sounds coming out of her radio – so when the time came to pick a trade, a sound and media course to get her foot in the broadcasting door was a no-brainer. She went on to work in pirate radio before landing her own show at Ireland's leading media broadcaster RTÉ, later leading to residencies at Rinse FM and, finally, her dream job at Radio 1.

Meanwhile, Saoirse was already making a name for herself on the live DJ circuit, with her diverse record bag garnering bookings for scores of parties and festivals. Previously, the Irish-born DJ had only experimented with production, but when the pandemic hit the live circuit and left her twiddling her thumbs, she suddenly had time to add another string to her bow.

Sharing a studio with a couple of friends, after a year or two of blood, sweat and tears, the release of her debut EP *Trust* arrived last year on Saoirse's own trUst label. This was followed by the three-track EP *Two Bruised Egos* earlier this year. Grounded on her cumulative knowledge of DJing and deep-seated love for rave, hard house and trance, both EPs have received early acclaim from club goers and critics alike.

We understand that it was your mother who got you into raving back in Ireland. What sort of events were you attending and from what age?

"She was organising 'free parties' as they were called back then – illegal events at beaches and all sorts. I must have started going to them when I was seven or eight years old and began attending a lot more of them myself by the time I was 15. Then I started going to big mega-raves like Creamfields and the Point Depot that did big trance events like Cream and Gatecrasher. I went to Ibiza for the first time when I was 17 on a two-week holiday and followed that up with two seasons that lasted about five months each."

You grew up at the tail end of vinyl's demise. Were you still able to catch the vinyl-collecting bug?

"Absolutely – I was kind of late coming into the digital side. I got my first set of turntables when I was 14 and started working at a record store in Dublin called Abbey Discs a few years later. That was one of the few record stores at the time where you could buy club music, and because I worked there for a few years I was able to collect a lot of records. CDJs were super-expensive to buy back then – we couldn't afford anything like that in our house. At one point there seemed to be a real demise in vinyl where you couldn't even get anything on record anymore, which is when I was forced to switch over to CDs."

What artists were you collecting?

"A lot of techno and I was a huge trance fan when I lived in Ibiza. I was into Jeff Mills and Dave Clarke, so I liked the hard side of techno – the tribally stuff. Then I went down the progressive route and got into Global Underground, Sasha and John Digweed, which filtered into house music, minimal and where I am with my sound today."

Are you pleased to see vinyl coming back in a big way?

"I felt like it was doing really well but when the big pop stars decided they wanted to start releasing vinyl that fucked the smaller independent labels. Now the people who play club music have to wait three to five months to get something pressed somewhere, so it's become a nightmare for those of us who genuinely want to play out records. The only thing that will help the situation is if more pressing plants open or huge labels stop pressing so much vinyl."

Do you find it ironic that just when smaller independents and artists have a chance to make physical income the big labels burst the balloon?

"I don't know if they even know, or care, about the impact it's having on independent record stores. People aren't going to them as much anymore because it takes too long to get any new product in there. I still play a lot of vinyl and probably spend half of my fees every month on bloody records [*laughs*] – it's a tangible passion that I can't ever imagine ending. Thankfully, there are plenty of record stores in London that sell a lot of second-hand bits so I can still go for a good dig and some independent sellers sell stuff from their own houses too."

You attended a sound and media course. What area of the industry were you hoping to break in to?

"That was for radio engineering and learning how to produce radio shows. I've been obsessed with radio since childhood. I knew all the DJs, when their shows were and used to record loads of tapes. It sounds ridiculous, but I used to call in to the morning breakfast shows on the really big stations so often that they virtually knew me by name! From a very young age I felt that being on the radio was what I wanted to do and going to a radio college seemed a very natural way to achieve that."

How did that evolve into you eventually becoming a DJ on Radio 1?

"I soon realised that the radio I wanted to do was not something I needed to study for, so I left college and started doing pirate radio. I did that for years and was on so many stations that RTÉ asked me to come in for a trial and

© Richard Ecclestone

eventually gave me an opportunity to work there. Recording a show in a proper studio was very exciting, but I moved to London and went back to pirate radio before ending up on Rinse FM and then Radio 1. Rinse FM still had that pirate vibe, you'd do everything yourself and just crack on, but working for the BBC was obviously much more professional. The shows were pre-recorded, chopped up and edited by a producer. I had to write scripts and do a lot of preparation, which took a bit of getting used and felt a bit surreal considering how I grew up listening to the station."

So much of media has changed, yet radio seems to have remained relatively unchanged…

"What has changed is that when radio was on FM you couldn't actually tell how many people were listening in, whereas now it's very much based on who listens back to it rather than who's listening live. The streaming aspect of it is what it's all budgeted on now."

You're also a club DJ. What's your take on how DJs have to present themselves as 'personalities' these days?

"I don't think there's a set answer for that. People argue that it should be just about the music but I don't agree – it should be about how the individual wants to present themselves. If they do a good job and people engage and like it, that's great, and some people like to get to know the character behind the DJ booth. Everyone's an individual and someone might have the type of character that makes that element of their performance amazing, whereas with a DJ like Jeff Mills you're getting such a good techno set you don't need to be given anything else."

What's your usual DJ setup?

"I have a standard setup comprising two vinyl turntables and two club-standard Pioneer CDJs. I use an Allen & Heath Xone:96 mixer that has a great preamp and the vinyl sounds so good going through it. Over the past few years I've been struggling to get the vinyl to compete with the dynamics of a digital setup, particularly in terms of the volume. I'll often turn up and someone's already red lined digitally so I'll have to turn the volume down or the vinyl will start feeding back. Thank god for this mixer though because there's still a lot of music that I can't get digitally and it's allowed me to bring the vinyl back again."

Presumably, it was the pandemic that forced you to take a break from DJing and pivot to production?

"Since the age of 14 I've always had a job and been working full-time and touring as a DJ. Because of that, I'd never really dedicated myself to production. I used to have a small home setup with cheap monitors, a MIDI keyboard and a couple of little bits but I couldn't do much there. I did try using Ableton every now and then, but during the pandemic I had the time to put the effort in for the first time in my life and was down in the studio for eight to 15 hours every day. Sometimes I'd even stay overnight and sleep on the sofa bed because it was dead on the street and dead in the studio."

"DURING THE PANDEMIC I WAS DOWN IN THE STUDIO FOR EIGHT TO 15 HOURS EVERY DAY. SOMETIMES I'D EVEN STAY OVERNIGHT ON THE SOFA BED"

Is it a shared space?

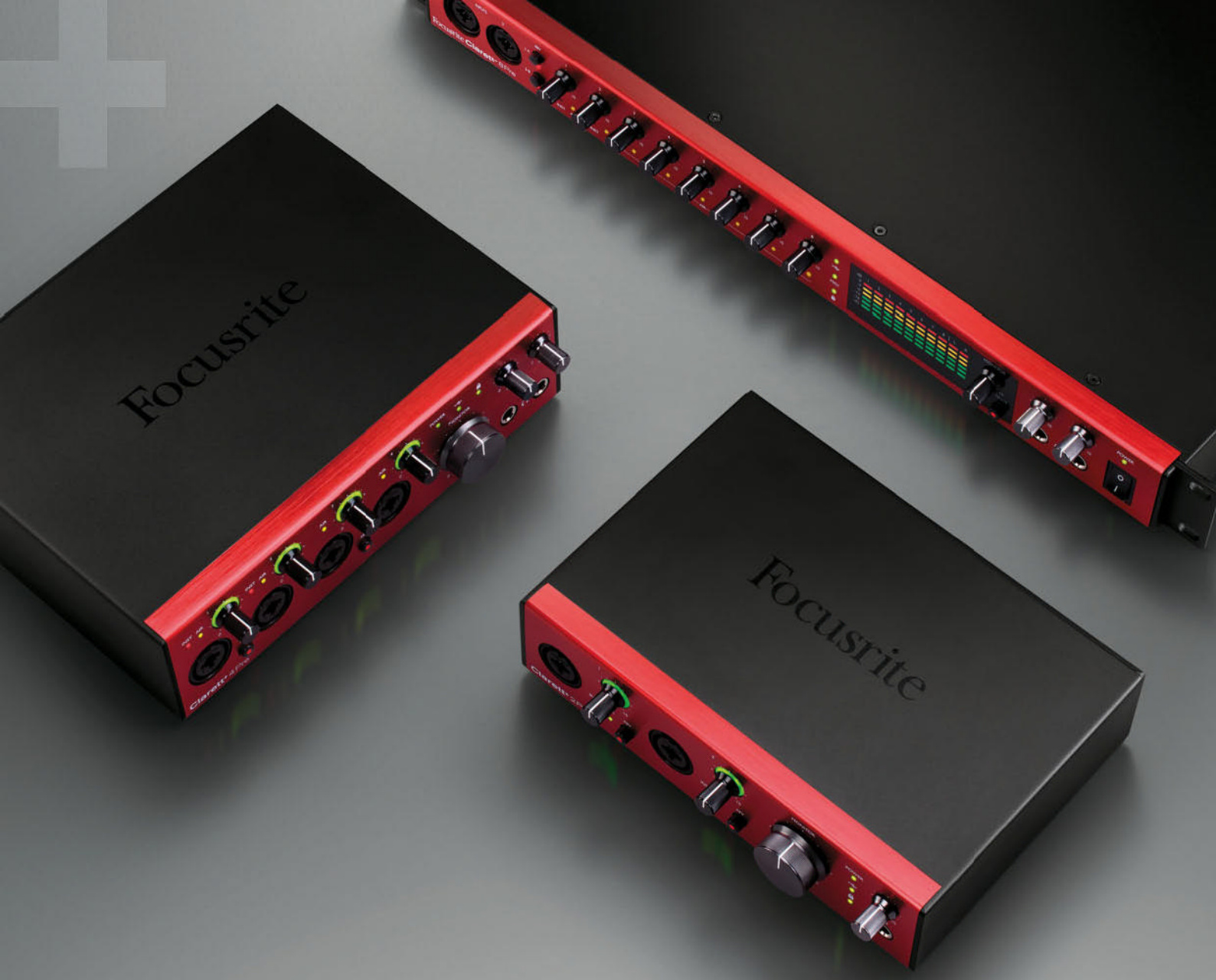
"My housemate Alex Anderson of Inner Zone was a big synth collector, so I started sharing his studio with one other person, buying my own gear and putting it in there. We basically put all of our instruments together and throughout Covid I finally had the time to check out the gear they had and began zoning in on instruments, jamming stuff and recording a sound that felt very suited to me."

What's the studio layout like?

"It's a big space with windows and everything and we've got the sound proofing down so the room's got a nice flat sound. There's a lot of gear in here between the three of us, but the things I use in nearly all of my records are the Kawai K5000, a Yamaha CS1x and a Roland JV-2080 rack. There's quite a bit of analogue gear here, but I've slowly discovered that I lean more towards the digital-sounding stuff. I really like FM synthesis – it's so electronic-sounding."

Where did you start when it came to creating your debut EP *Trust* back in 2021?

"As I mentioned before, it all started for me with Ableton and a MIDI keyboard alongside soft synths like FM8. I had Maschine for a while too but never really got a hang of it. It was when I got Ableton Push that everything changed. I used to play drums



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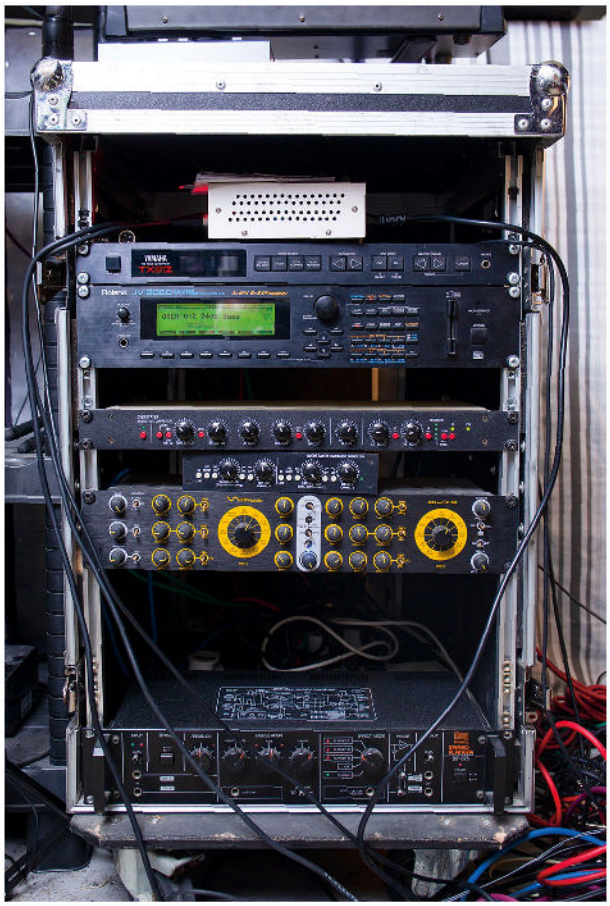
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MIDAS

"I TEND TO START FROM THE MIDDLE AND GO BACKWARDS – I FOCUS ON BUILDING THE PEAK OR MOST RECOGNISABLE PARTS OF THE TRACK FIRST"

and guitar and when I DJ I'm obviously always playing with my hands, so Push seemed a much better way to engage and connect with music. I just started writing all my drums, pads and percussion in the one box and then I used some of the synths in the studio and bought a couple too."

What ones did you buy?

"I didn't have much money to buy fancy stuff, so I decided to go for little bits that I could modulate sounds through to make them better and weirder. The CS1x synth is from the '80s and has a really new wave synthy sound. You can get one on eBay for £150 but it's incredible and I still use it to this day. I also got a Moogerfooger MF-102 Ring Modulator and a chorus pedal for effects processing."

Were you searching for your own style or did you have a clear idea of the direction you wanted to go in?

"Club music's in my blood so I knew very well how I wanted the tracks to sound. I got hold of a lot of sample packs and put them into Push so I work a lot with audio, taking sounds, layering them up and turning them into leads and pads that feel like they're my own. With Push, I could get stuff down so quickly that I found myself writing a couple of tracks a day. That actually became a problem for me because I love the exciting part of getting original sounds and a good groove going but when it came to the arrangement, mixing and editing I'd always convince myself to leave it for another time. Because of that I was never finishing a track. I still struggle with that, but I guess I'm more disciplined now because I have deadlines and people chasing me to finish stuff. Now if I find a cool sound or come across something exciting that's not right for the track I'm currently working on I'll just record it and save it so I have a bank of sounds that I can come back to."

The *Trust* EP definitely nods towards the rave era, especially some of the vocal samples…

"The EP uses a lot of vocal samples from a hardcore sample pack that reminded me of the hard house sound that I used to listen to when I was 15. Because it was my first proper EP, I wanted to start writing from the viewpoint of where I began. I do sample from vinyl occasionally, but so much stuff is available on sample websites now that you're probably able to find the samples you want on there or you can just download them from YouTube."

The bass is driving the tracks as much as the beats. Is that the main focal point when designing your tracks?

"Absolutely and most of the people who have written about my music have mentioned that. The trance and hard house era was all about the sound of driving basslines with a really swinging groove and that was what I always wanted to hear when I was dancing at clubs. I remember this one interview I read with Mark Bell of LFO saying that when he went to get his tracks mixed and mastered he'd be telling the engineers to keep pushing the bassline. They'd be saying, 'You're going to blow the compressor!', but he'd just tell them to keep going and ended up with all these seminal basslines that everybody recognises. Since then, the whole idea of creating a bassline that really takes over a track has stuck in my head."

Your *Two Bruised Egos* EP moves more in the direction of hard techno…

"I'm a DJ first and foremost – that's always been my passion, but I play a lot of different things, from the slower ambient stuff to hard techno and everything in between. I feel that my productions are always likely to span a bunch of different genres, and if you're going to recognise anything in my sound it will probably be the basslines that I make."

Is writing the bassline your conception point?

"I usually go through some synth sounds and write a melody or find a nice a patch that I like and play around with that, or I'll write a bass groove and build everything around it. I know a lot of people write their tracks in Ableton's Session view and build the track up chronologically, but I tend to start from the middle and go backwards because I'm more focused on building the peak or most recognisable parts of the track first. For basslines I like using the x0xb0x, which is a Roland TB-303 clone but I'm trying to change things up now because I'm just starting to feel that the sounds I'm using are getting a little bit stale."

It sounds like you get bored quite easily and are always looking for something new to inspire you…

"I've released ten tracks now but I already feel like I've rinsed a lot of the gear that I've been using. I've got some new stuff from Roland that I'm just starting to use like the SYSTEM-8 soft synth and I've started using a Roland SH-101 and the Korg Trident, which is a beautiful synth for deep pads

and textures. The only thing that I don't see myself changing is how I use Ableton and Push 2. I've worked with people who write tracks in Logic and think that the internal plugins are amazing, so I can see the benefits, but when they're bringing something in from a sample library it seems such a slow process that it would drive me mad. For me, you can get things done much more quickly and seamlessly in Ableton and I find that having an intuitive workflow is quite important to me."

Do you mix the tracks yourself or with a mix engineer?
"For mixing, I'll finish the tracks and send the stems to a mix engineer who I know who has some ridiculous pieces of equipment that I can't afford like the Thermionic Culture Vulture. So he'll tend to run them through some outboard that brings out the sound so much more before I send everything off to mastering. I wouldn't classify myself as a tech geek – I'm still learning a lot about how to layer sounds to get them sounding completely different to how they originally did. I have so little CPU on my computer because I tend to have ten different plugins on a sound and like using a lot different effects so that even a really famous sample is completely unrecognisable by the time I've finished with it. Plugin wise, I use Plugin Alliance's Brainworx pack, which has hundreds of different effects, or stuff from Waves and Soundtoys."

Now that you've moved heavily into production, do you see your DJ career taking more of a back seat?
"That's what I'm battling with the most. You do the gigs to pay your wages but, so far, writing music hasn't made me any money – if anything it's costing me money because I have to spend a lot on artwork and getting the record pressed when I'm releasing stuff on my own label. I really want to spend more time making music but know that in order to do that I'd have to do less DJing. DJing is my passion and after a weekend of good gigs it feels like that's what I should be doing, but there's other times when I just want to sit down and write music and not have to do all of that travelling, so I'm a little bit confused myself."

It must be satisfying to play your own music and get an immediate response from audiences though?
"That's an incredible feeling although I actually enjoy it more when I see another DJ playing my music as I get to watch the reaction from the dancefloor. That's a really nice way to experience my own music, but I don't dance, I just sway to side to side [*laughs*]."

You have your label trUst Recordings, but do you see yourself working with other labels in the future too?
"It would have to be the right label – one that I feel a good connection with. I'm of the opinion that you should only work with people that you already know or have friendships with. I like the idea of having circles of friends who all lift each other up and can create a sound between them that's recognisable."

What's the ethos behind trUst Recordings? It's not just for your own releases as you're signing other artists...
"I'm just trying to create good dancefloor music that will hopefully go on to stand the test of time. I'm not trying to reinvent the wheel, I just want people to trust me when I introduce artists to them that they may not have heard or become a huge fan of yet."

SAOIRSE'S GO-TO GEAR

Kawai K5000S
"I use this synth when I want to have lots of background textures, envelopes and modulation controls. It was also used by Kraftwerk in the '90s!"

Roland JV-2080
"This rack is used on most of my tracks and is super-easy to use. It has a depth to its sound, some killer blips and sweeps and I can always find something to arpeggiate."

Brainworx bx delay 2500
"The most powerful delay I've used, it just makes everything come through way more. It's rare to find a channel on one of my projects that doesn't use this."

Yamaha CS1x
"I can't believe the price point of this vintage synth for what it can create. You can hear it on nearly all of my tracks and its spacey digital sounds are right up my street."

Midas Venice Mixing Desk
"One of the most renowned, high-quality desks – and rightly so! I record all my synths through this and use the EQs and distortion to try to give a unique sound to my recordings. It's a powerful beast."

There are lots of converging opinions on dance music. What's your feeling about the club scene today?

"My biggest concern these days is that people are looking for stuff that's instantly digestible – they listen to whatever's big and then they throw it away and move on to the next thing. I feel that really has an impact on the quality of the music we listen to. Right now, hard techno has really kicked off again and the younger crowds are getting into it, but everything goes in a circle. The stuff that people listen to now is what I was listening to when I was 15 or 16 – people see it as fresh but it's really not, it's just regurgitated."

Are there other areas of the industry you'd like to try?

"I'd like to do some remixing and I've been building a little portfolio of sounds that could potentially be used in film or an art performance. I play so much different stuff in my DJ sets that I don't think it would come as a surprise to people if I wrote some downtempo or non-club music, and to have a sustainable career it's always better to have as many creative arms as you possibly can." FM

WANT TO KNOW MORE?

Saoirse's latest single *Gentle Romance* is out now on trUst Recordings. For more information, visit **saoirsemusic.bandcamp.com**

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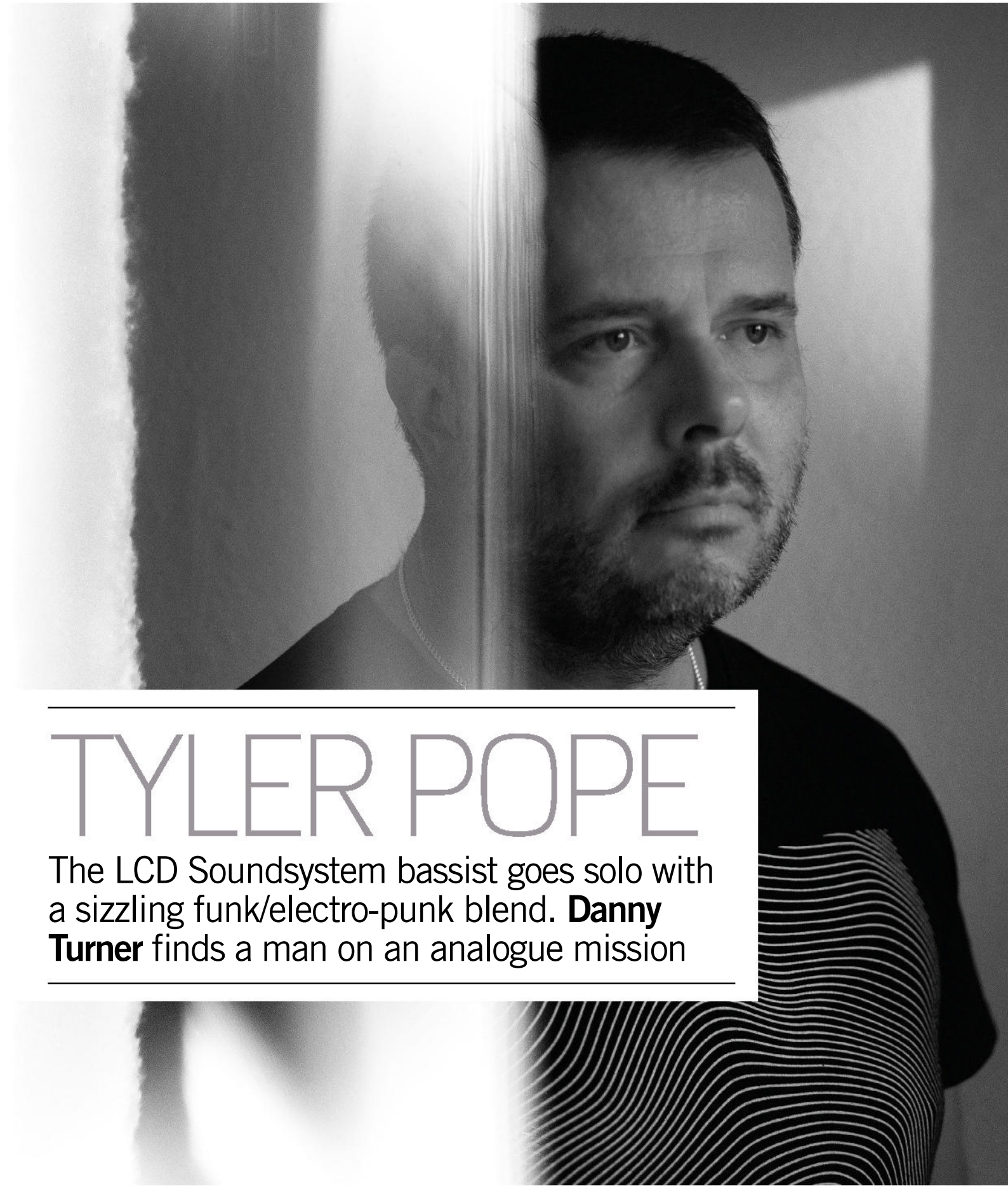

TYLER POPE

The LCD Soundsystem bassist goes solo with a sizzling funk/electro-punk blend. **Danny Turner** finds a man on an analogue mission

As an already influential member of Sacramento funk rock band !!! (Chk Chk Chk), Tyler Pope also joined LCD Soundsystem as a bassist in the early '00s, co-writing numerous tracks on some of the electronic rockers' most successful albums. However, when the band took a prolonged hiatus during the Covid pandemic, Pope was encouraged by LCD founder James Murphy to work on material of his own.

Finding that he was finally in a space where he was able to focus at arm's length from his previously hedonistic lifestyle, Pope released the surprisingly minimalist electronic EP *Nur Weil Ich Kann* in 2021.

Fast forward a year and he's ventured further with the more funk-oriented lead track to his second EP *Make Each Other Happy*. While both EPs have links to Pope's previous musical allegiances, he's forged a sound that's undeniably his own.

You're on tour with LCD Soundsystem at the moment. How are things going?

"It's not really a tour, it's more of a residency. We're playing 20 shows at one venue in New York, which is something that we did for the first time last year until everything got thrown into a bit of chaos with the Omicron variant. I've heard that we might be doing this every year around the holiday period, which is so much better for me as my constitution can't handle touring the same way that it used to."

> "ELECTRONIC MUSIC WAS NEVER MY THING UNTIL DAFT PUNK CAME ALONG. I ALWAYS THOUGHT THAT SORT OF MUSIC WAS RAVER SHIT"

Although you play in LCD and, formerly !!!, both bands have an electronic component to their sound…

"When I started with !!!, we all moved to New York and I was foundational to the beginning of the band. We were punk, playing around doing punk tours, but we were also as open-minded as we could be. We started listening to funk, soul and more groove-based music and that led to the first house music record that we liked, which was Daft Punk's *Homework*. James [Murphy] from LCD also wrote the song *Daft Punk Is Playing At My House* and when I listen back to that record it spoke to us. I know that the Daft Punk guys were also in bands before they started making electronic music, so maybe the spirit of that translated into ours."

Not growing up as a fan of electronic music, do you find it ironic that your sound should now have such a heavy electronic edge?

"In California in the early '90s I was part of the dead head culture – a hippie, but there was a crossover into the rave scene because everybody used to gather together, party and do drugs. I was exposed to dance music in that context, but I always thought that sort of music was raver shit and preferred regular rock. Electronic music was never my thing until Daft Punk came along."

What was the story behind your move from the States to Berlin?

"That was because of my now ex-wife, who's also a DJ and was involved in the house scene and Hamburg's Dial Records. Back in 2010, I went to an aftershow party where she was DJing and was really smitten. She happened to live in Berlin and we were going to be there for a couple of days so we reconnected and as the relationship developed, both of us realised that one of us would ultimately have to move country eventually. For me, Berlin was enough of a slowdown from the hustle of the New York or London scenes – it felt manageable."

Did being based in Berlin enable you to focus on your music without any distractions?

"I guess it did. I was very involved in the writing process with !!! for the first three records. I'd bring in rough ideas and work them out with the band, but I was never thinking about the possibility of doing my own thing eventually. It was only after I did the last LCD tour and the band broke up after playing at Madison Square Garden that it felt natural to start making my own music."

You've spoken about being heavily affected by the excesses of the rock lifestyle and wanting to get away from that, but that negative emotion doesn't show in the music…

"I'm not really an angry person – I'm generally more upbeat and I suppose that comes through. Ultimately, I always liked the sound of old-school hip-hop and funk music and have a feeling that the sound of that is missing in a lot of the music that I hear today or that when people do that it sounds a little bit corny. I'm trying to fill a niche rather than respond to whatever's been going on in my life… or maybe that emotion isn't something I'll recognise until I look back at a later stage. I was going through an incredibly dark time when I made the music, so there must have been something therapeutic about the whole process."

Did you have a studio of any kind when you were back in the US or did you only start buying gear once you'd moved to Berlin?

"I was working in my bedroom with some basic gear, but the room wasn't even soundproofed. This was pre-2010 and the first thing I got was an Akai MPC60 and a Digidesign Digi 001 interface running into a basic Pro Tools setup. James from LCD was actually quite fundamental when it came to giving me a nudge to do something on my own. At the end of the American Dream tour he said I should make an EP only using one drum machine and a synth – so I got hold of an old-school Roland CR-78 and an ARP Odyssey."

Your first release was last year's *Nur Weil Ich Kann*, which translates as Just Because I Can. Does that speak to the ethos behind your approach?

"I didn't think about it too much but I always think it sounds so absurd whenever people say 'I'm doing this just because I can', so it was a play on that. I didn't want the title of the EP to sound smug, but maybe you're right and it does apply to me in some way."

The first thing that came to mind when listening to the EP was the electro-punk band *Deutsch Amerikanische Freundschaft*. Were they influential?

"Absolutely – in fact they inspired me to sing in German. I've always loved that band and how they embrace the hard vocal German style. The industrial thing was so edgy and people always say they hate the German language in music because it sounds so harsh, but I really love it and I think that came from listening to so much DAF and I'm psyched that somebody has finally recognised that too."

The sound of the EP is surprisingly rough and raw…

"That was definitely something I was going for. I'm really into certain DJs who play that sound and L.I.E.S. Records from New York, which puts out stuff that's a bit rougher. It's clubby, obviously, and I could have made a choice to make it cleaner but I wanted to go for that lo-fi feel. The second EP was made a little differently – I tracked vocals, guitar and bass at home and ended up working on it with people who had a more legit studio setup than mine."

The lead track *Jump in the Fire* from your second EP *Make Each Other Happy* has a completely different feel. What was the thought process behind that track?

"I like the sound of the more experimental dance records from the '80s that were obviously done in high-end studios. That's become such a lost art, so I tried to embrace that on *Jump in the Fire*. After I quit !!!, Mario Andreoni and I kept working on music together and he gave me the essential idea and rhythm pattern for the track. Once I had that looping, the bass came next and then I'd play on top of that with guitar in a very typical way. Production–wise, I was really influenced by The Neptunes production team and referential towards specific songs of theirs."

What was your recording setup like for those initial jamming sessions?

"I really like using nice preamps. I have one from Great River and use the Universal Audio 6176 channel strip but always like to have the Thermionic Culture Vulture somewhere in the chain – not necessarily for distortion, but just to add a bit of character and crispiness to my instruments. I was using Pro Tools, but producer Tim Goldsworthy was a big Logic guy and a lot of the people who were around DFA Records at the time started using Logic, so that's what I'm using now. I did a lot re-tracking with Nick Millheiser who's also in LCD because he has a really nice studio. We ended up keeping the vocals and bass but rerecorded the drums through a Behringer RD-808 clone at his studio. He actually had a pretty big hand in co-producing that track, which is probably why it sounds different to the others."

As you say, the other tracks *Ananas* and *NWIK '22* are more similar to the sound of your first EP and very drum pattern-heavy…

"There's a lot of live percussion on *Ananas*, but all of the analogue drum machine sounds came from the Roland TR-808. I know it's an old-school way of doing things, but I try to stick to using one drum machine or combining sounds with a 909. The sound of the 808 is still pretty prevalent in popular music and I just like to keep everything sounding cohesive. You might not have noticed but NWIK '22 is actually a remix of the track *Nur Weil Ich Kann* from the first EP. Whenever I release something I think, damn, I should have done it this way or that, so I changed the sounds and added more live bass. For both tracks, I pretty much had the whole arrangement fleshed out before taking them to another studio to replace some of the live percussion and having the tracks mixed. When it comes to audio engineering, I'm still learning and I have friends who can do that stuff a lot better than I'm able to."

"I LIKE THE SOUND OF THE MORE EXPERIMENTAL DANCE RECORDS FROM THE '80S THAT WERE DONE IN HIGH-END STUDIOS. IT'S BECOME SUCH A LOST ART"

Who helped you on the mixing front?

"I contacted a dub/reggae producer from the UK called Dennis Bovell to do the mix down for *Jump in the Fire*. He was in a band called Matumbi and produced some seminal post-punk bands from the '70s like The Slits. That's another reason why that track sounds a little different from the rest of the EP – you can hear Dennis' influence in all the echoes and the swampy reverb."

Are you using in-the-box sounds?

"I use a lot of Kontakt instruments for the live drums and I'm really impressed by Universal Audio effects, especially the Eventide emulations and the

MXR Flanger plugin. The UAD stuff is so good that it usually ends up making it to the final version of the tracks. I like using Native Instruments' Battery for drum sampling and D16 plugins are really good for virtual instruments and effects. For sketching, I'll use Arturia soft synths even if they don't end up on the final version of the track. They have great emulations of the Roland Juno-60, Korg MS-20 and Minimoog, so I'll skip through the presets to sketch out tracks and then copy them later using actual analogue gear."

You seem to have a very clear idea of how you want to demarcate your software and hardware tools?

"I just prefer the imperfection of using analogue gear – the whole signal chain is different. Maybe someday I'll do a record that's entirely digital-sounding because I like that very clean computer-based aesthetic, but at this stage the wonky analogue sound is appealing to me. I use a lot of Moogerfooger pedals and love my reissued Minimoog – it's on everything. A bit like the 808, the Moog sound never gets old and I can't live without it *[laughs]*. I recently bought a Serge Modular too, but that wasn't used on the EP at all."

Is modular something that you're keen to go into in more depth?

"Not really. With the Serge thing, it's all there in this little box so I don't have to go out and buy a bunch of different modules. The original Serge came out around the same time as Buchla started making modular synths, but there's a company called Random Source that makes these little compact modular boxes. Again, that's all inspired from the whole DFA world and I took a big influence from James on that front. Maybe it's because I started as a musician that I like to get hands-on with gear, work fast and just get stuff down."

Once you've built a substantial body of work, do you see yourself playing your own tracks live?

"Once I've finished the LCD shows and get back to Berlin I want to start playing live and I'm looking forward to figuring out how I can do that in a way that's economical. I can't say whether I'll play out tracks from my EPs because I'd like to do some sort of rave club set or hybrid DJ/live thing. I love playing in a band, but once you've been doing it a while you tend to want to keep it simple and go in the opposition direction. I'm actually very much inspired by a band called Paranoid London. You were talking about the rough sound of my first EP and I definitely looked to them as an influence for that. I also love how they do their live sets – they're very stripped down, old-school and simple, but when I do it I'd like to add guitar, bass and vocals into the mix."

You release on your own Interference Pattern label. How's that been going?

"I started following an artist called Edge Slayer after she put out a very weird and experimental afro-futurist EP on a small label called Objects Limited. I didn't know what to expect when I asked her to do a full-length record for me, but she came through with this super-poppy R&B LP that also has some pretty dark themes. I'm not actively looking for people to sign – I've actually already started to get my next EP going. That's probably going to be more in the spirit of the *Ananas* track using lots of live percussion, but I can't really imagine making an album yet." FM

WANT TO KNOW MORE?

Tyler Pope's new EP *Make Each Other Happy* is out now on Interference Pattern. For more, visit **tylerpope.bandcamp.com**

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Moog Moogerfooger effect plugins

Moog have recreated their classic Moogerfooger stompboxes in plugin form. **Leo Maymind** goes in-depth to unearth some tips and tricks...

Moog's original lineup of Moogerfooger pedals, first released in 1998, were more special than it might seem in today's crowded landscape. The range initially started with two models, a low-pass filter named the MF-101 and a phaser, named the MF-102, each set in a large chunky box with wooden sides and large knobs. They were easy to grab, and most importantly, came with a back panel rife with CV inputs and outputs, designed to interact with other Moogerfoogers but also your analogue modular synth. They caught on quickly, finding favour with such musicians as John Frusciante and The Edge. The hands-on design of the Moogerfoogers meant they became genuine studio tools, designed to be tweaked, turned, and abused. Eventually the range grew to seven different models, each with a wide array of functionality.

Unfortunately the original lineup of Moogerfoogers were discontinued in 2018. The prices of the originals, especially the coveted MF-101 Lowpass Filter and the even rarer MuRF, began to soar beyond the reach of the average musician. So when Moog announced that their lineup of Moogerfoogers were being reborn, albeit in plugin form, in the fall of 2022, there was excitement from all corners of the production world. Let's dive in and discover what the 'Foogers have to offer...

HOW DO THEY COMPARE?

While this isn't the first time the set of coveted Moog analogue effects have been reborn in plugin form (there was a previous attempt all the way back in 2000 by plugin maker Bomb Factory strictly for Pro Tools), this is the first time the plugins have been made in conjunction with Moog with their stamp of approval. While we've seen impressive plugins and apps from Moog before, this is still no small undertaking.

So how do these digital counterparts compare to their analogue inspirations? Did Moog choose to expand the functionality of each of these plugins, or did they stay fairly true to the original designs that Bob Moog intended? Well, as with any story, there is a bit of both.

There are seven plugins in the range – the MF-101S, a low-pass filter with dynamic envelope control; the MF-102S, a ring modulator with built-in LFO that can go from tremolo to extreme ring mod tones; the MF-103S, a 6- or 12-stage phaser, complete with built-in LFO as well; the MF-104S (the most well-known of the bunch) a bucket-brigade 'analogue' delay capable of self-oscillation; the MF-105S MuRF, a resonant bank of filters that changes based on a user-selected pattern; the MF-107S, a VCO-fuelled FreqBox capable of FM sounds; and lastly the MF-108S Cluster Flux, a multi-effect that can function as chorus, flanger, or vibrato based on the settings.

As you'd no doubt expect, each of the pedals brings a decidedly hardware feel to their various effect offerings. In most cases, they tend to skew on the darker side of the EQ spectrum, and it's very easy to find interesting analogue-like textures by chaining several Moogerfoogers together. They also work well in places you wouldn't expect – for example, the MF-102S Ring Mod sounds terrific on hi-hat loops, giving them some nice crunch and texture. There are many unexpected uses for each.

In almost all cases, Moog have tried to remain as dedicated to the original designs as possible. There are a few cases where the Moogerfooger plugins differ slightly from their analogue counterparts. For example, the MF-104S delay doesn't have an external feedback loop like the original, so you can't process only the delay's feedback (aside from using the effect 100% wet).

Fortunately where Moog did match the analogue counterparts' functionality is in the CV connectivity department. Flip open the CV 'panel' on each of the Moogerfooger plugins, accessed by either clicking near the top of the UI or with the button in the top-right corner, and you're met with a variety of digital connections where virtual CV signals can be sent into the Moogerfoogers. In this way it's possible for Moogerfoogers on various tracks to all interact with each other, creating a multitude of complicated signal paths that couldn't otherwise be replicated in the DAW domain. These CV connections can also interact with Ableton's CV Tools and Bitwig's Grid for even more interactivity.

Getting to know Cluster Flux

What exactly is a Cluster Flux? Combine chorus, flanger, vibrato, and more in one single effect and you're almost there…

Though the Cluster Flux came out after the passing of Bob Moog, it's one of the most unique of the Moogerfooger set. Capable of flanging, chorus, and much more 'out there' sounds, you could say that the Cluster Flux is the closest thing to a multi-effect pedal in the group. While other pedals in the Moogerfooger batch also have LFOs in their architecture, none are as fully featured as the one in Cluster Flux, which has no fewer than six waveform choices. This LFO can be synced to the tempo of your DAW, but like the other Moogerfoogers, tempo rate divisions are not shown anywhere on the plugin's UI. Scrolling through the presets gives you a small taste of the range of sounds possible from Cluster Flux, and Moog have managed to capture that thick tone of the original hardware.

1 The Cluster Flux can function in flanger or chorus mode, selectable via the rocker switch on the left side. This section is confusingly labelled Delay; what's really going on is a Bucket-Brigade Delay set to very short delay times to create those chorus and flanged tones.

2 While being able to control the exact delay time already gives the Cluster Flux a lot more control than typical chorus or flanger plugins, there is also an LFO that can modulate the delay time. This LFO can be synced to your DAW's tempo and goes up to 50Hz.

3 A vibrato effect is possible when setting the plugin to output only the Wet signal and setting the LFO to the sine wave position, although more unique pitch effects can be explored with other waveforms. The depth of pitchbending is controlled with the Amount knob.

THREE QUICK TIPS

1 **Directly to the right of the preset dropdown is the Compare switch, which switches between the last loaded state and the last changed state. Load a preset, play around with it, and then click the Compare switch to toggle between the preset loaded and your most recent modifications to it.**

2 Another handy workflow tip – double-click any control to reset it to its previous position. This is incredibly useful if you just made a change to a knob's position and then decided you liked the previous setting better but don't quite remember where it was.

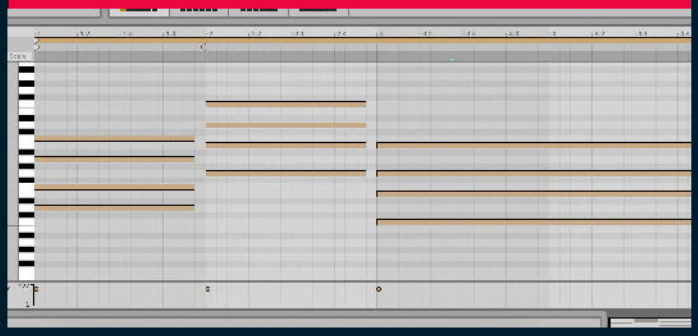
3 **If you'd like more precision control, hold the Control key while adjusting any knob for more precise fine-tuning. This is especially helpful given the analogue-like feel of these pedal-emulating plugins, where a tiny nudge of a knob can have a huge effect on the resultant sound.**

Create a trippy, delay with MF-104S

While many plugins can modulate the delay time internally, few have the options that the MF-104S has

01 >

For this walkthrough, we're going to be adding delay to a simple ii – V – I chord progression in the key of C at 100bpm (Dm7 – G7 –Cmaj7). This can obviously work on a variety of melodic material, including samples, synth pads, keyboard chord progressions, but here we are using the Glass High Strings Pad in Ableton's Analog instrument.



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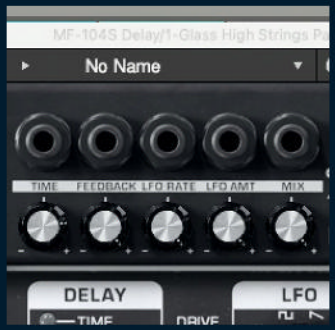
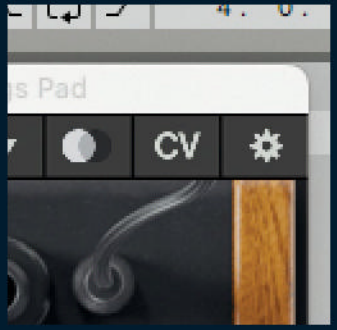
Without the delay, the part sounds fairly lifeless. Put the MF-104S on the track, and let's start adding a bit of movement to the sound by having the LFO change the time of the delay. To do this, open up the CV panel by either clicking the jacks near the top of the plugin UI, or the CV button at the top-right of the window.





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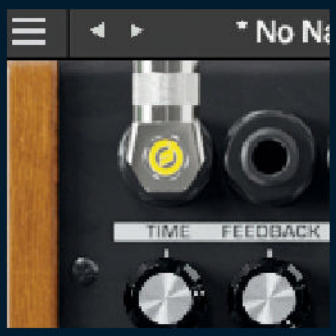
Click on the jack above the knob labelled Time. You'll see all the various modulation sources available. If you have other Moogerfooger plugins in your session, you'll see them listed towards the bottom. We are going to use the internal LFO of the MF-104S, so select that. You'll see a yellow light start pulsing on the input jack at the current rate of the LFO.



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In order to attenuate how much the LFO is affecting the delay time's change, turn the knob directly below the CV input jack. This can also be set to negative values, making the delay time decrease, creating unique sound possibilities.

UNDER THE HOOD OF THE MF-104S

While most of the plugins in the new Moogerfooger pack are fairly what-you-see-is-what-you-get, the MF-104S Analog Delay does have a few settings under the proverbial hood that are worth exploring. These are accessed by clicking the icon in the top-right of the plugin window, which will bring up the Settings screen. Changing 'Type' from Echo to Ping-Pong mode will make the delay signal bounce across the stereo field left. The 'Tone' setting directly below is going to have a substantial effect on the overall sound of the plugin. There are three options available – Legacy, Analog and Modern. Legacy recreates the famed dark tone of the original pedal, and it is quite dark! In fact many producers turned to digital delays or brighter analogue delays because of how dark the MF-104 was. Analog brightens things up somewhat but keeps the top end fairly rolled off. Modern has a more full-spectrum sound to the repeats. Note that this knob only affects the sound of the delay repeats, not your clean signal.

CV In Your DAW

Each of the Moogerfooger plugins has a host of CV connectivity, making it possible to use them in conjunction with each other even when they are on different tracks and instruments. Importantly, when using an LFO from either the MF-102S Ring Mod and the MF-104S Analog Delay, you have a choice of unilateral or bipolar movement. Unilateral will move the knob you're effecting in only one direction, while bipolar will have both positive and negative changes. This difference will have a drastic change on the sound, so try both and see what fits your particular situation best.

ID 'number'

When using multiple Moogerfooger plugins in a single session, you can differentiate between various instances of the plugin by clicking on the CV tab and finding the identification 'number', which in this case, is a four letter ID. This is useful when connecting the plugins via virtual CV cables, as it could get quite confusing quite quickly trying to navigate based on track name alone. This is true for both multiple instances of the same type of plugin, or different models within the Moogerfooger lineup.

Making connections

The Moogerfooger plugins can interact with each other and also other CV-enabled software, including Bitwig's Grid and Ableton's CV tool pack. Moog have given each CV input on the Moogerfoogers an attenuation knob, accessed under the CV control panel. Each CV input can be positively or negatively attenuated. When set to a negative value, the range of modulation flips and goes from negative to positive, allowing you to create some inverted envelope mod sounds. Only one source of modulation can be applied to each jack, so it's not possible to have your filter cutoff be modulated by both an envelope and an LFO, for example.

Visual cues

Moog have found a clever solution to show how incoming CV signals are modulating the controls of the Moogerfooger plugins. Any incoming modulation is reflected on the UI of the pedal with a thin white circle around the knob. This circle moves in time to the modulation source; this rate is also shown with a pulsing yellow colour on the input jack lead on the CV control panel, giving further visual illustration of what's going on with your sound. Making changes to the attenuation knobs below the CV jacks will illustrate those changes in real time; these act as depth controls for whatever CV source is selected.

Utilising Moog's MuRF filter bank in your DAW

Moog's MF-105S, also known as the MuRF, is a great, quick way to add movement to your grooves

01 >

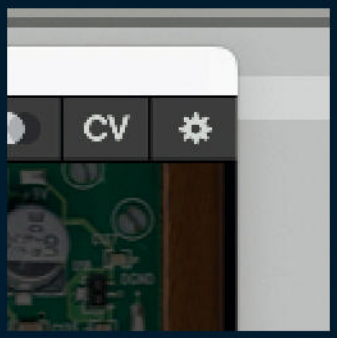
The MuRF pairs a bank of ten filters with volume sliders, a choice of 12 patterns, and an envelope knob. The rate can either be free-running, or synced to your host DAW's tempo. Unfortunately there's no way to see what the tempo divisions are when the plugin is synced, so you'll have to rely on the red blinking light to figure this out.

02 >

Increasing the Drive knob will overdrive the input of the plugin and get some pleasing grit to your sound. This can be used regardless of whether or not you're making use of the filter bank. The real fun begins when you start tweaking the filters in real time – these can be assigned to a MIDI controller to emulate the real pedal workflow.

03 >

In the centre of the plugin's UI is the pattern select knob. Click the top-right wheel button to open the settings menu. Like the original MF-105 MuRF, which also had pattern editing software, here's where you can edit and load patterns. There are 24 positions in total, 12 each for both Bass and Mids. However the 1st and 13th positions contain no animation and thus can't be edited.



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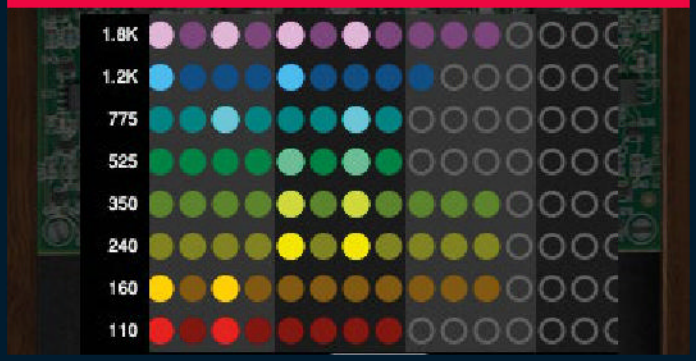
What's even more unique about this Pattern sequencer is that each frequency band can have its own number of steps, thus making it very easy to create simple, evolving polymetric sequences. To do so, simply turn on a step by clicking that circle in the corresponding row.



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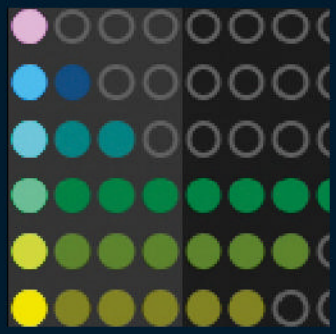
A lightly coloured step means that the pattern extends to that step. A more brightly coloured step means that step is on and thus the filter frequency band will open when the pattern moves through it. It's possible to create all sorts of rhythmic variations by playing with these patterns and sequences. FM



TR-909
RHYTHM COMPOSER

NOSAJ THING & SUNNY LEVINE

Undecided on how to finish his first vocal-based album, Nosaj Thing summoned Grammy-winning producer Sunny Levine. The duo talk to **Danny Turner**

Known for creating ethereal, synth-based instrumental hip-hop albums such as *Drift*, *Home*, *Fated* and *Parallels*, Jason Chung (aka Nosaj Thing) has slowly moved towards a singer-songwriter aesthetic, reflected in both his own releases and vocal-based production sessions with other artists.

Going full steam ahead with that theme for his fifth Nosaj Thing album, *Continua*, Chung began collating vocal ideas from a stellar ensemble of guests, including Toro y Moi, Kazu Makino (Blonde Redhead), Julianna Barwick, Slauson Malone, Panda Bear, and Eyedress, amongst others.

Overwhelmed by the range of possibilities, Chung felt he needed help to cross the finish line. Having long collaborated with Sunny Levine – son of Stewart Levine and grandson of the legendary Quincy Jones – the in-demand producer was enlisted to help Chung fully define his creative vision.

Jason, do you typically work with a producer or is this the first time?

Jason Chung: "It's the first time. From being a bedroom producer who primarily started making instrumental music, I've naturally progressed towards working with other artists and vocalists and that's something I've had to learn, but this time it got to a point where it became a bit overwhelming because I was dealing with ten songs that all had vocals."

How did you get in touch with Sunny?

JC: "I met Sunny over ten years ago and we've been working on music together for at least five of those so I've always trusted his tastes. Most of the record was made remotely with other collaborators either prior to or throughout the pandemic, but it got to a certain point where I realised how much I missed having Sunny in the room and his advice on how he hears music. Basically, I just called him to say that I needed help finishing these songs."

Sunny, people may not know that you're Quincy Jones' grandson. How influential was he and your father Stewart Levine in your decision to become a producer?

Sunny Levine: "They were pretty damned influential [*laughs*]. It's almost a family business, so it would have been stranger for me not to become a record producer. They taught me about dealing with artists and how to roll up my sleeves and make a record in a room full of people, but I had to find out the modern way of making records on my own, which is making beats using samples and being alone in a room. Somehow, between that old-school world and what I discovered from working with hip-hop producers or trip-hop people like Howie B, I found this weird in-

between place that makes me helpful for people like Jason. I like the idea of producing producers."

Jason, in what way was your approach to this album different?

JC: "This is the first album that I wrote working backwards. The photo on the cover is shot by a hip-hop photographer called Eddie Otchere who lives in LA but is actually from the UK. I was blown away by his photos in the mid-'90s, so I followed him on Instagram and found an image that almost felt like it had been taken out of my head. It became the mood board for this record, almost as if I was scoring to picture, and I sent it to all the vocal collaborators along with four or five song sketches."

Sunny, do you typically like to discuss concepts and ideas with artists prior to working with them?

SL: "I like to find out what an artist is looking to do and then try to turn them on to whatever I know that relates to that. Part of why Jason and I work so well together is that we've hung out in the studio so much and played each other so much music that we've developed a language. Normally I'd have to figure that out with someone, but we've already spent years doing that so we can easily make dynamic shifts in our decision making."

Can you give us an example of how a creative decision might have changed the direction of one of Jason's songs?

SL: "There's a song called *Grasp* with Coby Sey, Slauson Malone and Sam Gendel that we were trying to finish. We had all the parts in from everybody and I said we should try and turn it into a track that drives Gilles Peterson insane – let's make it a Gilles Peterson fantasy! Music's so abstract and you can make so many decisions even when a song is close to being finished that you just need something to chase after so you're not drifting and making random choices. I guess that's an example of taking a song and trying to get it over the finish line."

As mentioned, every track has a different vocalist. Was there a particular reason for moving in a more song-oriented direction?

JC: "I listen to most of my music in the car and just noticed that I really enjoyed listening to vocals in that environment. As I'd also been producing for other artists and doing more vocal sessions, it felt like the right time to experiment more with vocals in my music. My favourite records growing up were Unkle, Portishead and Massive Attack and I feel there's been a void in that space for a while, but I didn't want *Continua* to be nostalgic – it's

"I SAID WE SHOULD TRY AND TURN IT INTO A TRACK THAT DRIVES GILLES PETERSON INSANE – LET'S MAKE IT A GILLES PETERSON FANTASY!"

my futuristic version of those records that were influential to me."

SL: "A lot of modern electronic music will just use a little hook or a piece of a vocal, but when you listen to those Massive Attack records they're real songs. They had such a major effect on both of us and we had lots of interesting conversations about why we felt this direction would work."

How did you go about sourcing vocalists for the album?

JC: "That was the most difficult part. I'm quite shy and socially anxious, but I drew up a list of artists that I truly admire, respect and had been listening to during the whole of the pandemic and gave it to Dom at LuckyMe Records. He suggested I reach out to them directly, so I started contacting a few and they were down to collaborate, which only inspired and motivated me to keep going. Don't get me wrong, it took about a month to gather enough courage just to message them [*laughs*], but it also taught me to go after the ideas that you have in your head because you really never know until you go for it."

You mentioned giving them a choice of tracks to work on?

JC: "I'm always working on little 30-60 second sketches and I keep them on my hard drive like a diary. When it's time to actually make an album, I'll start going through all those ideas and bring them into a new folder, so I basically sent those sketches to each vocalist and whichever ones they gravitated towards I made arrangements for and started building the tracks up that way."

Were all the vocals recorded remotely or was it essential to work with each vocalist in person where possible?

JC: "I'm already aware that to be a good producer you need to be a really good communicator, so once I was ready to have those conversations I did my best to explain to them what this record was all about via FaceTime or a Skype call. Most of the singers were in different time zones and when you don't know someone all that well it's hard to sync up at first because you're just learning how to communicate."

SL: "A lot of times Jason would get an idea back from a vocalist and he'd work on it, or we'd work on it together and decide that if they could just do one more verse that felt a certain way we could flesh the track out and finish it. Music is all a puzzle and that can be overwhelming, especially when you have that many tracks from different people."

Is that basically how your creative partnership evolved throughout the making of the record?

JC: "A good example would be the *Grasp* song that Sunny mentioned. It all started with Slauson Malone laying down a guitar riff and bassline, then Sam Gendel gravitated towards that idea and added sax and I put down some drums. When the track got to Coby Sey, he laid vocals down to everything Sam had recorded, but when Sunny heard it he thought everything sounded a little crowded so we decided to move it all around. It was the same with the last track *Different Life* ft. Eyedress. He wrote a few words and just sang them over and over for 20 minutes until it almost sounded like a mantra. But the words kept changing

and so did the delivery, so Sunny and I just cut it up and puzzled it all together."

SL: "Sometimes the proportions are off and you only have to move something a little. I'm not sure if I know anything special that Jason doesn't, it's often about just having another pair of eyes and ears to work alongside you."

What's your view on working with artists remotely – is it a necessary evil or does today's technology render it less important these days?

SL: "If you'd asked me a few years ago I'd have said there's no way you can make good records remotely, but during the pandemic I made a record with Jon Batiste remotely and it won a Grammy [*laughs*]. When you work with someone in a room, there's sometimes a lot of pressure and that can make great things happen, but sometimes people are more likely to give you something special from their own comfortable space with their own gear. The optimistic view is that it's all cool, but it's good to be back in rooms working with people."

JC: "Because I primarily come from making instrumental music, I guess that I treat vocals as just another instrument. Maybe that's why working remotely with a vocalist works for me because the chain of effects and EQs I use are the same as on any other synth part so it doesn't sound pasted on. Do you know the band Broadcast? They're one of my favourites and you can hear this reverb throughout all of their records. I always liked the idea of that because it makes it feel like everything came from the same room."

SL: "All the great old records are like that – even early jazz records. You had all these different guests coming in but because they were all recorded in the same room with the same plate reverb it's all tied together. Nowadays, people try to use as many plugins as they can, but sometimes it's better to be a little more disciplined and take an overall view of the sound."

A few other people played an important role in relation to the live instrumentation used on the record, notably Michael Andrews and Amir Yaghmai?

JC: "I first worked with Amir on a track ten years ago and I met Mike Andrews – a film composer known for working on the movie *Donnie Darko* – through Amir. I really saw this record as a movie and felt I could bring a cinematic quality to it if we included strings, piano and other live instrumentation. It started with us just sending each other music on Spotify and then I'd go to Mike or Amir's studio to do some overdubs. They helped bring the record alive."

SL: "Those two guys are the Zen masters of overdubs. When you use them you know nothing bad is going to happen to your record – you're just going to get cooler sounds. Whenever we were finishing a track and it needed a flash of extra colour, we'd take something that Mike or Amir had played and it would take care of a moment."

Jason, we last spoke to you around the release of *Parallels* in 2017. Has your studio evolved much since then?

JC: "Every record I've made has been recorded in a different space, so I decided that whichever piece of gear I hadn't used in a year I'd sell and that was mostly vintage stuff. I just kept a few key pieces like the re-issued Prophet-5, a Yamaha CS-50 and I love the Teenage Engineering OP-1 synth. I also got rid of my original TR-909 and replaced it

"EVERY RECORD I'VE MADE HAS BEEN RECORDED IN A DIFFERENT SPACE, SO I DECIDED THAT WHICHEVER PIECE OF GEAR I HADN'T USED IN A YEAR I'D SELL"

with a Soma Labs Pulsar-23 because it sounded new to me. I don't want to be a collector and there are so many new instruments in the plugin world that I'm interested in."

What plugins are interesting you right now?

JC: "I really love anything that UA is doing or plugins by Arturia or AudioThing and wish I could shout out to certain people from the Max for Live community as I use a lot of their patches. I also love using Cableguys' HalfTime plugin. From my understanding, it pitches whatever you send it down one octave and divides the time of the rhythm and how it's processed in real time. I usually use it for a chord progression or melody that needs to be flipped."

Are you running your soft synths out of the box and through outboard?

JC: "That's a good idea [*laughs*]. I'll usually run soft synths through pedals to shape some of the sounds. Meris makes some really interesting pedals like the Polymoon and I like Retroactive Pedals' Dot Chaser, the MOOD Chase Bliss pedal and a spring reverb by Vermona called the Retroverb Lancet. All my hardware runs through a Speck Electronics X.Sum summing mixer into a BAE 1073 dual Neve clone and straight into the UAD Apollo."

Sunny, as a producer does your setup reflect a requirement for flexibility?

SL: "The room I have now is great to both begin and finish records in. I have an 8-channel Neve sidecar console that I run everything though and my drums go through an old Alice 828 mixer that's great for giving you messed-up sounds. I grew up using an Ensoniq ASR-10 and an Akai MPC3000 to make records with and still get to use those a lot, but for this record I just went to Jason's studio and was mostly using my brain rather than getting too hands-on with gear."

You seem to work so well together – what comes next?

SL: "We're down for doing anything in the future but I also think it would be great for us to help make other people's records. We've talked about that so much – we've gotta put it out in the universe bro…"

JC: "Okay, I feel like Sade, or whatever an answer to a new Sade would be – a trippy, sexy, night-time soul record." FM

WANT TO KNOW MORE?

Nosaj Thing's new album *Continua* is out now on LuckyMe. For more information, visit **nosajthing.com**

© Tony Krash

RABIT

After a four-year break, left field grime producer Rabit takes an ambitious left turn. **Danny Turner** reveals his 'Frankenstein' approach

Beginning his career in 2015 with experimental grime albums *Communion* and *Les Fleurs Du Mal*, Eric C Burton (aka Rabit) not only found himself flavour of the month but chosen to co-produce the track *Losss* on Björk's Grammy-nominated album *Utopia*. Whilst most artists would attempt to cash in on the collaboration, Burton remained more interested in following his creative instincts, serving up the uncompromisingly ambiguous LP *Life After Death* one year later.

Having then released a series of mix tapes, Burton embarked on a new challenge to fully investigate the concept of collaboration. His fourth album *What Dreams May Come* signifies a hugely eclectic and atmospheric shift of gears, whereby contributors including John Beltran, experimentalist JG Thirlwell (Foetus) and producer Maxwell Sterling coalesce with Burton's eccentric use of circuit bent machinery, modified synths and the algorithmic program, Nodal.

Would you say you always had a studious approach to production?

"I'm kind of old-school in that I studied the greats. Before I was on the internet or released music, if I found something by a producer that I was stuck on I'd load something up on the Akai MPC and literally try to unpack how they made the rhythms or the basslines. Dilla's *Ruff Draft* and records by Madlib's Quasimoto were super-influential to me. I was never a school person, but I'm very investigative and thirsty for knowledge. A lot of kids are like that, and a lot of us fall by the wayside because we're not interested in getting a degree."

How did you get involved in producing the Björk track *Losss* back in 2017?

"The guy that ran the label Tri Angle, which released my first album *Communion*, had some input on remixes for Björk's previous record *Vulnicura*. It was during an era when the grime sound was very fresh and that whole experience was a little serendipitous, but I've learned as an artist that if you're doing something unique then if you stick with it and have good intentions your music is going to find people."

People might imagine working with Björk would completely change your public profile. Was the reality very different?

"The funny thing about it was that I pretty much went on a five-year hiatus after that came out. I work very intuitively and do a lot of things that don't make business sense. Obviously, the thing to have done right after that song came out would be to drop a project with a bunch of tracks that all sounded like *Losss*, but I'm not interested in collecting fans – it's just not how I operate. I needed to investigate what I was interested in doing musically."

You've been called a producer, composer and storyteller. That last word seems highly relevant in relation to your latest album, *What Dreams May Come*?

"It's a term that I only started using this summer. I just felt that telling the story of being a Texas musician, my journey and that of my friends around me who make music, needed to be documented – otherwise, when we're gone it will all be gone. I guess that I no longer need to wait for other people to break ground or make choices about my music relating to the world at large."

You mentioned *What Dreams May Come* as being a time capsule of sorts?

"When I use the word storyteller that also includes the music that came before me that motivated me. When you were growing up, I'm sure you were a fan of artists or DJs that people had never heard of that ended up being more influential to you than some huge name. We all have a lineage and I'm really into remembering that and not acting like all my ideas came out of thin air."

Is this the first time you wanted to work directly with other artists on a full-length album?

"Where I come from, the world of rap music was so different because it seemed like a world of managers and major labels. I always thought that to make an album like Prince Paul or Dr. Dre you needed to have a certain stature, a million dollar budget and know people. After I'd dropped a couple of albums I thought, wait, why go through all these people when I can just find artists adjacent to my scene and start making music with them? If I was to give advice to anyone it would be that. The worst thing people can do is say 'no' and their decision might not have anything to do with me as an artist, so I just continued to collect tracks and collage pieces of music and any time an idea came to me I'd hit somebody up and ask if they were down for working on it."

You must have been particularly delighted to get JG Thirlwell from Foetus involved?

"He's someone that's compelling as a musician and always challenging the boundaries. With this album, I was really into bridging the gaps between generations and genres. He hadn't heard my stuff before, but was down for it as soon as I hit him up and was very generous and open to experimentation. He's a bit like me – a serial experimenter, and I'm always going to get along with people like that sonically."

So the tracks were mostly written prior to you sending them to a particular artist to contribute?

"Some of the tracks have different workflows to them. For example, the spoken word interludes with Lagniappe and Boochie were made because I hit them up and asked them to record whatever they felt like on a voice note. Then, once the album had started coming together, I knew exactly where those tracks should fit and worked on creating a sound bed for them."

The album's very different to the grime music of your first two or three. Do you feel that part of your growth as an artist is about creating something more relatable to people?

"With my first album I was basically making grime tracks when Tri Angle approached me and thought I was doing something different that was bigger than the scene I was in. That was perfect as a debut, but there was no breadth in what I was doing – I was just sending tracks to grime DJs and happy if someone used them in a mix. To me, grime is about being competitive and my music was an extension of that. A lot has happened since then. I make tons of things I don't release and *What Dreams May Come* is a culmination of a growth in my sound and a maturity in realising that just because I make electronic music it doesn't need to be anything – it's all about challenging what a song or an album should be. As you can probably tell, none of the tracks have a traditional song structure; it's about capturing a feeling."

If we take a track like *Epiphany*, which is particularly surreal, what can you tell us about how it was pieced together alongside the various collaborators?

"That started with me going back and forth with John Beltran exchanging synth and ambient patches or textures until it got to a place where I had the bed of a song and would hear a voice that might sound great on top of that. But the contributions from Lauren Auder and Baby Blue were made singularly and edited at a later stage based on how they fit into the overall statement. Some people collaborate when they're out of ideas, but when I collaborate with someone or reach out it's because they do something that I can't. It's about pooling everyone's strengths and making a statement."

How did Maxwell Sterling fit into that process?

"Maxwell provided the bulk of the instrumentation, like the strings and the double bass. We'd worked together on a couple of live shows in 2019 and had a great rapport, but all of the music was made remotely. I finished everything in my own studio by collaging it

"IT'S ALL ABOUT CHALLENGING WHAT A SONG OR AN ALBUM SHOULD BE... NONE OF THE TRACKS HAVE A TRADITIONAL SONG STRUCTURE"

all together and I really like that term because a perfect mixdown is a great thing but the way I make music is based on feel. I generally don't revisit sounds at the time they're made – the space and the feel of the track is more important than whether something is technically sound, and I'm sure you can tell that [*laughs*]."

Many of the tracks are highly atmospheric. Is that down to how you layer tracks or the effects used on certain instruments?

"My process is very effects and experiment-heavy. Taking a track like *New Days*, I put all these yelling and crowd noises through delays based on experiments where I'd have the delay going crazy. I'm influenced by people like Aphex Twin or the Squarepusher vibe of finding something that you like and breaking it, whether that's a plugin or a drum machine, and I like to experiment with effects by breaking the sound, making an instrument do something new or layering it in a way that has an emotion to it. Not that those people don't make beautiful music, but to me this album feels just as much like peak 4AD or a band like Coil."

You appear to primarily work in the box alongside a few hardware toys…

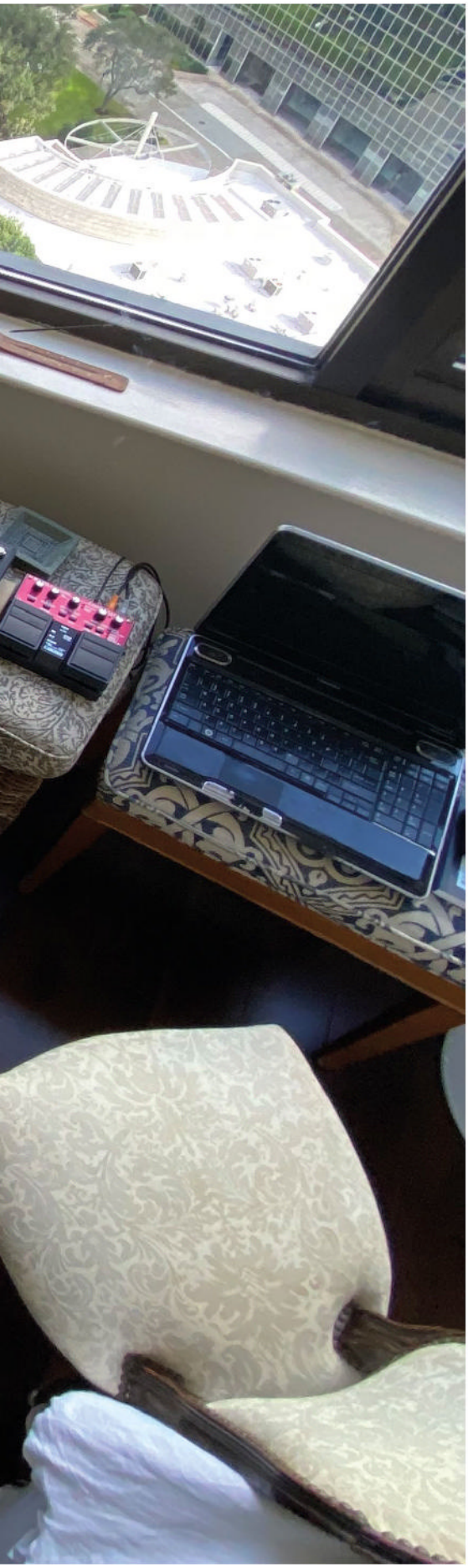
"I typically like to experiment with one thing at a time. I work very quickly and don't see the need for having tons of gear chained together. A lot of the fun I have with sound is about getting an idea, playing with a bunch of effects and calling it a day. I may do that hundreds of times and when it finally feels like I'm getting somewhere I'll edit all that audio. For me, people who have a studio with one of everything connected tend to make tracks in a linear way. I don't save projects, so when I say that I'm collaging I'm literally doing just that and have to EQ in a subtractive way or edit because I'm not able to EQ something. The approach is very Frankenstein and would probably make no sense to other musicians."

Do you believe in squeezing the most out of an instrument?

"I've been influenced by people who work in a very bare bones way. The beatmakers I grew up on just used a Roland SP-404, E-mu SP-1200 or made a whole song on an Akai MPC. If you can do that on an MPC you're a lot further along than someone who has an entire studio because it becomes more about your creativity and willingness to make a track."

Does that make mixing problematic or does it just mean you're happy to leave lots of sound artefacts in the mix?

"On the *New Days* track, which has lots of synth sounds and background vocal effects, I'm just going to treat the entire thing as a VST synth. If something's in the way, I'll just cut the frequency out and rely on a good mastering engineer. I'm very big on just getting on with the process – I'm not going to search for VSTs all day or look for problems in my mix and spend a lot of time working on them. I've got friends who work that way and want everything to be perfect – and that's great if you want something to sound great in a club, but *What Dreams May Come* is not an album for clubs, so that's not my concern."



Talking of limitations, you once said Native Instruments and iZotope gave you all their software so you don't need to buy gear anymore. Was that a flippant remark?
"With this album, there's a good amount of acoustic instruments and samples that were used in creative ways, but I'm pretty much still going through those soft synths because if you have a well-rounded synth you can use it for a long time. I've just transitioned into collaborating with people who play instruments, letting those experts do their thing and blending that in with my own flow."

Tell us about some of the modified equipment you've been using, particularly in relation to the Akai MPC…
"I've been using that for more than 15 years. One of the first things I did was to use a Japanese operating system called JJOS, which I don't believe is updated anymore. It's kind of like how a Tesla has certain things that you can unlock if you pay for them – all the technology is already in there, it's just being paywalled. The MPC is the same, they basically use all the same chips but the housing is different, so with JJOS you could basically hack those software limitations using a compact flash card to create a version of the most expensive MPC in the cheapest model. At the time, that was the Akai MPC1000 and I used it for ages. When something on it broke one day I realised I could fix it, but then I lost the outer casing in a hurricane so just left it like that."

What about the circuit bent synth you have?
"That came from some people I found online who make circuit bent stuff. It's very cheap and small and the name is irrelevant because it's worse than a Casio, but I'm super-big on merging hi-brow and low-brow synth recordings. I don't know if they make the Alesis Andromeda anymore, but that's a synth I'd love to have. It's so big and expensive, but I'd love to rip the sound bank and merge it with a toy."

You have some cassette decks, presumably to get a tape saturation effect on sounds?
"I like to mess with the Dolby sound reduction and play with the different buttons that you're not going to get from messing with a plugin. I'll make synth sounds on a soft synth, record them onto a cassette and rip those back in using the free software Audacity, which I actually use a lot. I may not even use all that stuff – it's just an experiment and fun to play with!"

How does the algorithmic program Nodal help you generate the sounds you're looking for?
"I'm not privy to the whole world of melodic phrasing – my melodic playing is quite intuitive and better suited to a shoegaze vibe where whatever feels good is right, so I'll play in a progression and Nodal will embellish that, keep playing it as an infinite phrase and then I'll just record any audio that jumps out at me. I think it's boring to use generative software outright and just drop it into a track as a main feature. As interesting as certain artists might make that seem, the end result just doesn't have enough soul." FM

WANT TO KNOW MORE?

Rabit's new album *What Dreams May Come* is out now on Halcyon Veil. For more, visit **halcyonveil.com**

FutureMusic Platinum Award

Arturia MiniFreak €599

The MicroFreak gets a new, polyphonic sibling. **Si Truss** lets the 'Freak off the leash

CONTACT **WHO:** Arturia **WEB:** arturia.com **KEY FEATURES** 6-voice hybrid polysynth (12-voices in paraphonic mode). 22 digital synthesis and processing engines. Analogue filters and VCAs for each voice. 3-slot effects engine. Sequencer and arpeggiator. 37-note 'slim' keyboard with velocity and aftertouch sensitivity

THE PROS & CONS

+

Multitude of excellent digital synthesis engines

Digital effects help bring sounds to life

Can be used as a processor for external audio (with some very fun results!)

–

Lacks the depth of some rival digital synths, in places

Launched in 2019, Arturia's MicroFreak was a bit of an outlier – a proudly digital instrument arriving at the end of a decade dominated by affordable analogue. The same can't be said about the MiniFreak. Between the likes of Korg's Wavestate, Opsix and Modwave, Modal's Cobalt and Argon synths, and Elektron's Digitone, we're arguably in the midst of a new golden age of digital hardware synths. Whereas MicroFreak undercut much of the competition with its sub £300 price, the Mini's price sees it going head-to-head with all the instruments mentioned above as well as the likes of ASM's Hydrasynth Explorer.

Despite this increased competition though, Arturia's latest Freak still feels like a unique entity. The marketing push for MicroFreak made a lot of its slightly oddball design and experimental nature, and much of that ethos is carried through.

On the whole, MiniFreak is effectively an expanded version of the MicroFreak's synth engine. As with that synth, the design here pairs multi-mode digital oscillators with an analogue filter section and VCA. Again, these elements come accompanied by ADSR and cycling envelope generators, LFOs, and a flexible mod matrix to route it all.

Almost every element has been scaled up for the MiniFreak though. This starts with the hardware itself, which is considerably larger than that of the MicroFreak, making this feel more like a fully-fledged instrument. The extra size means space for a proper keyboard – as opposed to the Micro's divisive capacity keys. The 37 keys here are still 'slim', similar in size to Arturia's Keystep Pro, although they are equipped with velocity and aftertouch sensitivity, with a decent synth-action feel.

The keyboard is joined by a pair of touchstrips placed to the left at a slightly lower level to the keyboard itself. These can act as a stand-in for traditional pitch and mod wheels, control a pair of assignable macros or increase the 'Spice' and 'Dice' parameters for the sequencer.

In terms of capabilities, the main upgrade from the MicroFreak is an increased voice count. Whereas the Micro could operate in paraphonic mode, the MiniFreak is capable of full six-voice polyphony with filters and modulators for each voice. There are a total of four voice modes available here: mono, poly, unison and paraphonic – where each voice's two sound engines can be used individually to play up to 12 notes.

Having dual voice engines is another major upgrade from the MicroFreak. Each is an individual digital oscillator with a total of 22 modes available. These include straightforward synthesis approaches such as basic waveshapes and virtual analogue modes, plus a variety of classic digital approaches such as two-oscillator FM, waveshaping and stacked super waves. There's also an abundance of more esoteric approaches to sound generation, such as noise, speech, formant and Karplus–strong synthesis modes. As with the MicroFreak, there's a healthy dose of influence from the modular realm here too, including several oscillator modes developed in conjunction with US brand Noise Engineering, as well as some that make use of Mutable Instruments' open source code.

The quirk of cramming such a variety of approaches into a single synth is that these often disparate methods of sound creation are required to share a unified set of controls. The most fundamental of these are simple enough – Type controls the oscillator mode itself, while Tuning and Volume are self-explanatory and act the same for all oscillator types. Sound shaping is handled by the more vaguely-titled Wave, Timbre and Shape controls, the exact functions of which change depending on the current oscillator type being employed.

THE ALTERNATIVES

Arturia MicroFreak £300
If you can live without the polyphony, effects and proper keyboard, the MicroFreak offers the same basic sounds – and at half the price
arturia.com

Korg Opsix £500
Korg's modern take on an FM synth also uses a multitude of digital sound approaches. Its price has come down recently too, making it something of a steal overall
korg.com

ASM Hydrasynth Explorer £500
The Hydrasynth is one of the best digital synths in recent years, and this smaller sibling brings its basic workflow into a more affordable instrument
ashunsoundmachines.com

This restriction to using three catch-all controls for every synthesis type can occasionally make it feel like MiniFreak is only offering a simplified version of each concept. In FM mode, for example, it allows users to set the relative ratios of the two operators but not really get under-the-hood and adjust the amplitude envelopes of either. On the whole though it's a smart, flexible approach that lets users quickly explore different sound palettes. Key to the MiniFreak's appeal is that users can experiment with these often fairly complex synthesis concepts, via an easy-to-use interface, for low-risk blind tweaking.

Sound design wise, there are several advantages to having these two engines. Firstly, unlike on the MicroFreak, users can blend different synthesis approaches in a single patch. This works wonders for, say, creating rich, textured pads where a complex, modulated digital sound is underpinned by a more straightforward virtual analogue one.

MiniFreak can also use the second sound engine to process the output of the first. This makes use of a variety of effect-like algorithms offering approaches such as comb filtering, surgical EQ, virtual analogue filters, ring modulation and distortion. The synth can also process sounds via its rear-panel audio input, effectively turning the whole instrument into one big filter and effects module.

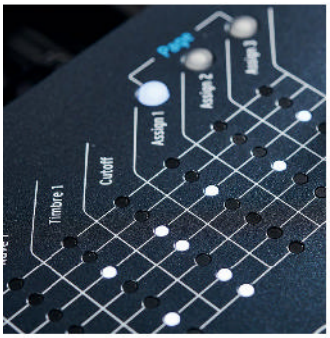
On that subject, MiniFreak's other significant addition is that of a three-auxiliary, digital effect engine. There are 10 effect modules to choose from, comprising the usual suspects – a delay, reverb, distortion, EQs, compression, phaser, flanger, chorus – although most offer multiple varieties of each processor type. As with the oscillators, these use shared controls to keep editing simple. A key characteristic of these effects, however, is the fact that they all operate in stereo – taking advantage of the synth's rear panel stereo output – meaning they can add width and an extra dimension of movement.

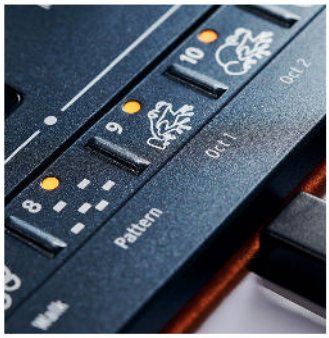
Modulation is provided by two envelope generators and two LFOs. Envelope 1 is a straightforward ADSR design, while the second is a cycling envelope that can function either as a secondary rise/fall envelope or be

> Users can play with complex synthesis concepts, via an easy-to-use interface

ARP AND SEQ

Like most of MiniFreak's features, the sequencer and arp workflow is effectively an expanded version of MicroFreak's offering. That means that fun features such as the 'Spice' and 'Dice' parameters are carried over, which let users perform variations to the sequencer gate length, velocity, decay and introduce elements of randomisation. The major upgrade here is a row of 16 buttons allowing users to easily program and engage/disengage individual steps (up to a total of 64). MiniFreak also offers chord and scale modes, simplifying pattern creation. The arp's capabilities are expanded too, with features including new playback modes, ratchets and octave randomisation. As with the Micro, the sequencer also offers four channels of automation recording, along with rear panel CV/gate outputs allowing for control of analogue hardware.





looped for LFO-like functionality that can be pushed into the audible range. The LFOs offer generous flexibility too, offering synced or freerunning operation, plus a variety of waveshapes and directions. There's also a custom LFO designer mode that lets users chain basic shapes to build complex modulation patterns.

Key to MiniFreak's modulation capabilities is its front panel mod matrix. This makes it simple to dial in and keep track of routings between a range of seven modulation sources and seven destinations. Of those destinations, three are user assignable, which can be set up to modulate almost any parameter controlled by a front panel rotary (the only exceptions being effect type, master volume and tempo). Similar in operation are the two macros, which can each be assigned up to four destinations that can be controlled in positive or negative directions by sweeping along the touchstrip.

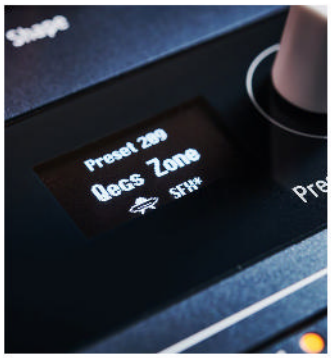
There's a lot of flexibility in this setup, although the one disappointment is that there's no way to apply modulation or macro control to the depth of another modulation routing. This means there's no easy way to, for example, set up the mod strip to increase the level of pitch modulation from an LFO to create a tremolo effect for performances.

This is one of several areas where the MiniFreak feels, at times, a touch shallower than some rivals. The modulation, while flexible, is nowhere near as deep as the complex operator-equipped setups of Korg's Wavestate, et al. When it comes down to counting voices and oscillators, MiniFreak is towards the bottom of the pack at its price point too.

That said, the joy of working with MiniFreak is that it keeps its most exciting features up front, meaning it's incredibly easy to experiment with oscillator combinations, modulation routings and effects without getting lost in sub-menus. For all of its versatility too, Arturia have done an excellent job of creating a UI that feels like it has no wrong answers; even if you're not interested in exploring the nuances of oscillator types, getting stuck in tends to consistently create winning results.

We loved the MicroFreak when it arrived, concluding that the "multiple oscillator modes cover a near-endless range of timbres; the filter is smooth and versatile; the Matrix invites exploratory modulation; and the performance and sequencing tools are the icing on the cake." All of this remains true of the MiniFreak, but the various areas of expansion make it more of a capable studio workhorse.

Is that extra power worth the doubled price? Yes, the polyphony and effects vastly add to the usability. Conversely, however, the price point also means that it faces stiff competition from some truly excellent digital synths. But thanks to its impressive sonic breadth, powerful sequencer and an interface that's a joy to get lost in, MiniFreak is very much a contender. FM



MINIFREAK V

In a rather unusual move, Arturia are offering MiniFreak alongside an official plugin version, which comes free with the hardware synth. MiniFreak V is essentially a straight port of the digital synth engine, albeit with emulated analogue elements. Unsurprisingly the plugin version sounds remarkably similar. Some patches can be shared back and forth between the two, and the hardware can be used as a controller. Interestingly, some virtual features of the UI, such as oscilloscopes for the synth engines and animated visual representations of the envelopes, make the plugin version a better environment for sound design. It's nice to have both!

FM VERDICT

9.3

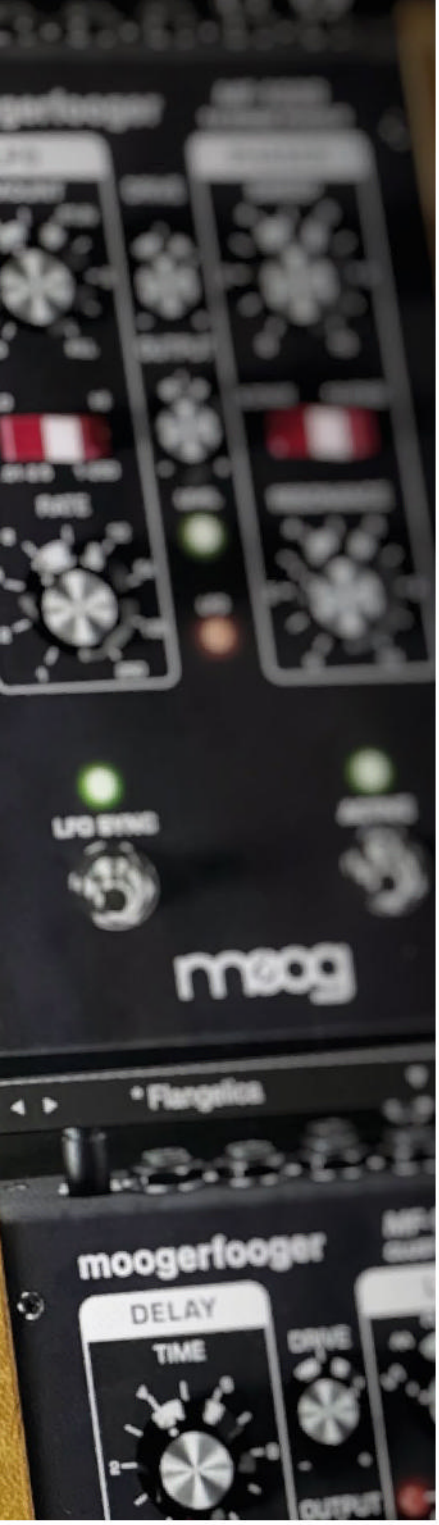
Although MiniFreak is less of a trailblazer than its little sibling, this is a versatile-sounding hybrid synth that's a joy to get hands-on with

FutureMusic Platinum Award

Moog Moogerfooger effects plugins $249

The stompbox line enters virtual form, adding extras unavailable on its analogue ancestor. **Robbie Stamp** gets chained up

CONTACT **WHO:** Moog Music Inc. **WEB:** moogmusic.com **KEY FEATURES** **PLUGINS INCLUDED:** MF-101S Lowpass Filter, MF-102S Ring Modulator, MF-103S 12-Stage Phaser, MF-104S Analog Delay, MF-105S MuRF, MF-107S FreqBox, MF-108S Cluster Flux **FORMATS:** AU (v2), VST3 and AAX **COMPATIBILITY:** MacOS 10.13 and above, Windows 10 and above



THE PROS & CONS

+

The Moogerfooger balance of quality sonics and creative functionality is very much intact

Full (virtual) CV implemented across all instances within a DAW project

A full suite of extra settings not available in the original

Drive-Output link allows for simple gain/overdrive balancing

–

Tempo-synced LFO divisions are not displayed

MF-101S Lowpass Filter self-oscillation cuts out too early

CV AND SIDECHAINING

Though there are no real voltages passing between Moogerfoogers, the near-limitless CV control available with these plugins is impressive. Users get a choice of sidechain input audio as CV (DAW depending), another Moogerfooger or a DC-offset position for the MIDI-mappable parameter. Incoming CV is treated as unipolar, ie moving up/down from the parameter control position either positively/negatively based on the CV knob. A bipolar option can be selected to allow movement centred on the parameter position. External sidechain inputs can be derived from their left or right channels.

The original Moogerfooger pedals' secondhand values soared to ridiculous levels once they were discontinued in 2018 – and not without reason. These truly excellent effects deliver best-in-class sounds and functionality, especially for those with CV-compatible hardware, an audience that has exploded with the exponential growth in the modular synthesis market. It was only a matter of time before the Moogerfooger magic was translated into a digital format. And so here we are, with a complete Moogerfooger lineup in glorious AU/AAX/VST3 technicolour!

The original seven pedals are all present and correct, even down to the wooden side panels and plethora of black plastic rear panel 1/4" socket nuts, more of which below. The pedal controls are replicated with very little adjustment: MF-101S replaces the Fast/Slow envelope follower switch with a rotary knob, and the MF-102S Ring Mod boasts a shiny new LFO Sync footswitch, for example. This latter addition is added to the 12-Stage Phase, Analog Delay, MuRF and Cluster Flux, where only the MF-104M Delay and MF-108M Cluster Flux carried a Tap Tempo in their analogue forms. The plugin versions continue the spacious, eminently playable control layouts, though the UIs are not currently resizable, and lining up a chain of Moogerfoogers carries much of the creative excitement that the IRL stompboxes do, though without the inevitable mass of cabling.

One of the great strengths of the MF pedal range was the generous helping of CV control options for integration with synths, modular setups and, of course, other Foogers. This has been brought to the plugin series with a rear panel that can be toggled open to access the CV input and outputs that can be routed internally, from the plugin's left/right source feed or any other MF instance within the DAW. Each plugin is assigned a four-character identifier when instantiated, and these identifiers are listed, along with the model number (eg MF-108S), when a CV jack is clicked on. This adeptly avoids the track naming confusion that can occur through the life of a DAW project. Once plugged in there are plenty of options for defining the CV behaviour (see 'CV and Sidechaining'). The sonic possibilities that this opens up within and across channels is at the heart of what makes these plugins an immensely attractive package.

Of course the sonics of the MF-10#S effects need to be on point to render the magic of the OG MFs in the DAW world. Almost without exception these seven plugins deliver. The modulation that the 12-Stage Phaser and Cluster Flux put on tap are as rich as they can be eccentric, and combined with the majestic MF-104S Delay, users can immerse themselves in psychedelic

THE ALTERNATIVES

Soundtoys 5
$499

The whole Soundtoys collection, including the Effect Rack that creates unified effects chains in one plugin. Creative quality overflows.

soundtoys.com

FabFilter Creative Bundle
£279

Though these four plugins exist solely in the digital realm, they're more than capable of conjuring juicy analogue tones. Timeless 3 and Volcano 3 are two of the best filter/modulation/delay effects that you'll find anywhere.

fabfilter.com

Eventide H9 Plug-in Series
$499

The H9 plugin series brings producers a range of quality, varied virtual effects from a longtime studio favourite.

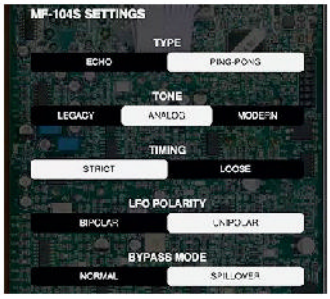
eventideaudio.com

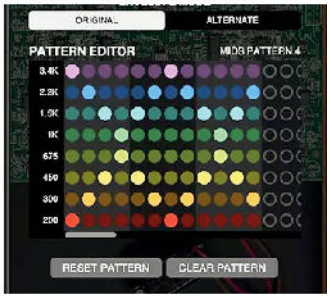
spaciousness for days. The MuRF makes even more sense in digital form as the pattern editing, accessed on the settings menu page (see 'Settings: Further Fooger Functions'), is completely user programmable via a colour-coded matrix that allows for as much complexity as required.

As for the humble pair that started the Moogerfoogers off over 20 years ago, the MF-101S Lowpass Filter and MF-102S Ring Modulator bring the sweet and the weird with expanded horizons, from stereo envelope following in the former to independent left/right carrier oscillators for the latter. The MF-101S manages to bring all of the squelchy, quacky ladder filtering we all expect, but there is a low end fatness that has been snipped off in the translation process, most easily demonstrated by driving it into self-oscillation and pulling down the Cutoff knob. The analogue MF-101 will pump out a strong bass tone all the way into the sub ranges, while the MF-101S drops off around 275Hz. On the other hand, the self noise of the stompbox has been eliminated in the plugin, for obvious reasons. It is worth noting that all seven Moogerfoogers can be driven hard into red LED territory and the Output knob wound up, but the signal is peak limited to -0.1dBFS.

The MF-107 FreqBox seemed a little underwhelming, or at least rather too niche, in analogue form, but as a plugin, and especially as part of a CV-linked chain, it brings plenty of snarl, fizz and warped distortion to basses, leads, arps, drums, vocals. That's what the Moogerfooger plugins offer: flexible, easy-to-use tools to carve out new aural spaces. The original analogue designs have translated exceedingly well to plugin form, keeping the well balanced control sets, simultaneously capable of sweet, subtle enhancement and mind-warping experimentalism, while adding in extra features to expand the sonic range to meet modern audio expectations. The virtual CV means that it'll be hard to resist popping in another Moogerfooger, even if it's just to access an LFO. If there was one thing this set could do with it'd be a plugin CP-251 Control Processor to take the CV features further.

The regular price (outside of its initial discount period) is not at all unreasonable. These are classic effects that have been carefully rendered in glorious digital form with hardly a hair out of place, and a whole heap of extra functionality poured in. FM





DRIVE: This control shapes overdrive and, for some models, envelope follower characteristics, but also pumps the overall volume. The Lock compensates as Drive or Output is adjusted

SETTINGS: Each plugin's Settings page offers a range of controls to extend the effects, from mono/stereo switching and envelope responses to LFO polarity and tone-shaping

COLOURS: 22/24 patterns can now be edited via a colour-coded matrix with up to 64 steps per filter, each with differing numbers of steps per pattern for pseudo-randomised patterns

SETTINGS: FURTHER FOOGER FUNCTIONS

Each Moogerfooger Setting page carries at least two functions, most new additions; some form of mono/stereo choice, be it the output or envelope/oscillator signals. The delay-based pedals, Analog Delay and Cluster Flux, offer strict/loose timings, echo/ping-pong behaviours and analogue/legacy or modern tones for the decays. Envelope smoothness is addressed for the LPF and MuRF, while all the LFO-based effects get bipolar/unipolar options for their oscillations. Though not every option is new here, together they build a more comprehensive set of controls over analogue versions.

FM VERDICT

9.2

The wait is over: the Moogerfoogers have arrived to add their distinct, creative flavours to digital audio. And they do not disappoint

Scarlett

NEVER STOP CREATING

Sound better than ever. Get studio quality sound with the interfaces that make more records than any other.

Focusrite®

RødeCaster Pro II

£699

If you produce podcasts, this will make your life much easier. **Jon Musgrave** fires up this latest task-specific workstation

KEY FEATURES **FREQ RANGE:** 20Hz to 20kHz **PREAMP GAIN:** 0-76dB **I/O:** 4 x combo mic, instrument, line; 2 x balanced line, 4 x headphone ¼" jack **BIT DEPTH:** 24bit **SAMPLE RATE:** 48kHz **STORAGE:** microSDHC, SDXC, USB-C **USB INTERFACE 1:** 1x 2in/16out, 1x 2in/2out with mix minus **USB INTERFACE 2:** 1x 2in/2out with mix minus **POWER:** 30W via USB-C (15V, 2A)

Bundling a specific podcasting toolset into a single production workstation has proved very successful for Røde. However, with similar products now available from Tascam and others, Røde have decided to step things up a gear, and the result is the RødeCaster Pro II. The unit combines multiple input sources (mic/line, Bluetooth and USB) with onboard processing and pad sound effect triggering to create a stereo 'show' output mix. Main stereo and constituent multichannel streams can be recorded to onboard Micro SD, attached USB storage, and via USB interfacing. It includes four physical inputs, stereo monitor outputs and four headphone outputs, with one headphone output dedicated to the host. The desktop-style unit can also be mounted using the bottom 1/4" mic stand thread or 100mm x 100mm vesa mount.

So what's new? First up, the Pro II is more compact and slightly lighter than the original Pro, and has six physical faders (the Pro has eight). That said, the faders can be assigned to any audio source and are joined by three virtual channels, upticking the input channel count to nine. So all told, it's more flexible. What's more, a fantastic new 5.5" angled haptic touchscreen with a push/turn rotary encoder keeps things tactile. On the sonic front, new Revolution preamps offer more gain, less noise and are paired with XLR/Jack combi inputs. Pro II also has eight pads with eight banks and dedicated bank navigation buttons. The pads trigger onboard sound effects including a handy master output expletive bleeper, but can also apply a choice of voice effects, robot for example, to the four physical inputs. These are assignable and editable within the software.

RødeCaster Pro II includes significantly upgraded USB connectivity and has three USB-C connectors. One is for power, one supports full multitrack streams (2in/16out and 2in/2out) and one supports stereo (2in/2out). This lets you use multiple software apps on different drivers or even smart phones, further enhancing the Pro II's broadcast hub functionality. Underlying this is a new quad-core audio engine. This also drives the onboard Aphex processing which includes channel level preset processing, advanced processing (high pass filter, de-esser, noise gate, compressor, 3-band EQ, exciter and pan) and the master output compeller and master output delay.

Onboard sound effects include a handy master output expletive bleeper

Software options can be set onboard or via the Røde Central app. These include broadcast-style fader-up monitor muting for mic input faders and headphone sensitivity. From a production perspective, significant options include pre or post fader multitrack recording with an effects bypass option, and different settings for onboard SD and USB streams. Main stereo USB output options include mix minus or customisable mix. Further software settings include metering type, haptic behaviour, display brightness and colour settings.

One gripe is being limited to 24-bit/48kHz operation; if you were hoping the Pro II could double as a high res audio interface, it's a no. Still, overall it's a deceptively flexible, powerful device, and the more I dug in, the more impressed I was. FM

FM VERDICT

8.8

Røde gives the all-in-one podcast production centre a big upgrade, delivering a higher quality, slicker and yet smaller device

THE PROS & CONS

+

Better quality and more flexible input and preamp configuration

Fantastic angled haptic touchscreen

Two USB audio connections and multiple drivers for flexible connectivity

More compact footprint

Good choice of storage options

–

Limited to 24-bit 48kHz operation

FutureMusic Platinum Award

Roland Fantom-0 Series

From £1,250

The flyweight Fantom is here, but has shedding those few pounds come at a cost? **Ben Rogerson** gets the measure of it...

CONTACT **WHO:** Roland **KEY FEATURES** Three Roland synth engines, sampling, clip-based sequencing with instant pattern recording and triggering, touchscreen, multiple realtime controllers, 16 pads, mic input and onboard vocoder, 4x32 USB audio interface and native integration with Logic Pro, MainStage, and Ableton Live, support for Model Expansions, Sound Packs, Sample Packs and more from Roland Cloud

THE PROS & CONS

+

Superb sounds from the Roland archive

A lot of the full Fantom's features for a lot less money

Expandable via Roland Cloud

–

No aftertouch on the keyboard

Classic Roland Cloud synth emulations don't come included

Workflow isn't immediately obvious and there is a learning curve

Released in 2019, Roland's latest generation Fantom keyboards are excellent workstations, but they're big, heavy (particularly the 88-key model) and pricey. As such, there's definitely a gap in the market for a 'budget' Fantom range that offers similar tech but at a lower price point and in a more compact form factor.

Fantom-0 is that range; comprising 61-, 76- and 88-note models, the keyboards it contains are designed to be used in your studio and also taken to the stage. And, while they're significantly more affordable than their full-fat-Fantom siblings, they come with a lot of their stablemates' most desirable features.

This means that sounds come courtesy of three high-spec Roland engines: ZEN-Core, SuperNATURAL and the Virtual Tonewheel Organ. What's more, you can add more instruments – including emulations of classic Roland sounds – via Roland's Cloud service.

The Fantom-0 inherits the Scene/Zone/Tone architecture of the standard Fantoms, with each top-level Scene (there are four banks of 128) containing 16 Zones, and each Zone housing one of the 3,500+ plus tones or 90+ drum kits. There's also a comprehensive effects section.

Of course, this being a workstation keyboard, sounds aren't all you get for your money. The Ableton Live Session View-style sequencer offers 16 tracks, each of which can contain up to eight patterns, and you can record in real/step-time or via Roland's classic TR-REC method, which will be familiar to anyone who's used one of the company's drum machines down the years. There's even a piano roll for editing, accessible via the reasonably responsive touchscreen.

Interestingly, though said LCD screen is smaller than the one on the standard Fantom – 5.5-inch rather than 7-inch – it actually has better resolution: 1,280 x 720 'dots' rather than 800 x 480.

There's sampling, too, either to the 16 pads or the keyboard if you want to play pitched sounds. You can even import multisamples and use them to create new ZEN-Core tones.

The smaller two models in the range (Fantom-06 and Fantom-07) have synth action keyboards, while the Fantom-08 has weighted-action keys. Other control features, including the touchscreen, clickable parameter control knobs, sliders, pitch/mod lever and light-up pitch/mod wheels, are the same on all models. Wisely, Roland have also put thought into the Fantom-0's computer integration. It has a built-in 4x32 USB audio interface and offers native control over Logic Pro, MainStage and Ableton Live.

When we took delivery of our Fantom-08, the first thing we noticed was how light the box was. There was no cursing from the courier on the doorstep about the weight of the thing, and it's easy to manoeuvre on your own (something that can't be said of a lot of full-size 'boards).

We'd say that Roland has ticked the portability box, then: to give you some context, the Fantom-08 weighs less than the Fantom-6, the smallest model in the flagship Fantom range – 14.8kg as opposed to 15.3kg – and almost half that of the Fantom-8, which tips the scales at 27.7kg.

The downside to this is that the Fantom-0 models don't feel as sturdy as their bulkier brethren. While it'd be unfair to call them flimsy, there's certainly more plastic on show on the Fantom-0, and we wouldn't like to put Roland's claim that they're "ultra-rugged" to any kind of test.

While we're on the subject of differences between the Fantoms, we should also point out that, although both the synth- and weighted-action keyboards in the 0 series are pretty playable, unlike those on the standard Fantoms, they don't have aftertouch.

Internally, the Fantom-0 has less DSP power than the Fantom, and less

THE ALTERNATIVES

Roland Fantom 6/7/8 From £3,000

If you want the full Fantom experience – superior build quality, aftertouch keyboard and more features – then here it is, but you'll have to pay for it...

roland.com

Yamaha MODX+ From £1,680

Yamaha also offers a a mid-range workstation; the MODX+ draws inspiration from its flagship Montage range, and is perhaps the Fantom-0's closest rival

uk.yamaha.com

Korg Nautilus From £1,949

The third member of 'The Big Three' manufacturers offers us a stripped-back version of the Kronos. Another excellent option for those who want an 'all-in-one' keyboard

korg.com

TOUCHSCREEN It may be a bit smaller than the one on the Fantom, but the resolution is better and it's pretty responsive

CONTROLLERS A mixer section with sliders and knobs, plus dedicated illuminated pitch and mod wheels and a combined pitch/mod lever

SYNTH/SEQUENCER Select and tweak sounds, and make recordings using the 16-track sequencer

SAMPLING Record keyboard snippets or external sounds and trigger them from the 16 pads

memory for multisamples and Model Expansions. Relatedly, you don't get the Juno-106, Jupiter-8, SH-101 and JX-8P models included, either, so you'll need to budget extra for those if you want them. 15 Wave Expansions and 10 Sound Packs *are* included.

Sadly, you can't use the new n/zyme Model Expansion with the Fantom-0, presumably because of the aforementioned drop-in DSP power. The Fantom-0 is also missing Roland's V-Piano engine, another of the selling points of its more expensive sibling. You lose the analogue filter, too, and there are fewer realtime controls.

If the Fantom-0 seems little more than the Fantom's poor relation, though, reconsider. For its price, it packs in an awful lot: that ZEN-Core synth engine sounds as good as ever, the acoustic pianos and other 'real' instruments are lovely (who needs V-Piano, eh?) and the overall sound palette is vast. The Fantom-0 gives you a great platform on which to use Roland's excellent Model Expansions, too, though you'll need to factor in the price of a Roland Cloud subscription if you want to access them, or shell out for Lifetime Keys.

There is a learning curve – the whole Scenes/Zones/Tones nomenclature can be confusing.

Having had the Fantom-0 in our studio, though, we think it's a great keyboard to have around. It sums up everything Roland is trying to do right now – blend old and new technologies and combine them with software-based expandability – and until you've had a workstation that you can just sit down and play/record with without having to turn on the computer, you don't quite know what you're missing. Yes, there are still reasons to buy a fully-fledged Fantom – better build quality matters to pros – but for most of us, this will do very nicely indeed. **FM**

WHAT FLAVOUR FANTOM DO YOU NEED?

Although the two Fantom ranges share a lot of common features, in reality, they're quite literally fighting in different weight divisions. With prices for the standard models starting at almost £3,000, they're aimed at the pro market and those with very deep pockets.

The Fantom-0s are a different proposition; in fact, with the Fantom-06 available for under £1,300, we'd say it's a bit of a bargain. You'd struggle to find another workstation of this quality and flexibility for this price.

Equally, at £1,600, the Fantom-08 is a great deal. That extra spend gets you a larger, weighted-action keyboard that's more rewarding to play for a pianist and could serve as both a decent stage piano and a great studio master keyboard. It's our pick of the bunch.

Which leaves the Fantom-07, which falls between two stools. You save £100 compared to the Fantom-08, but you drop down to a synth-action keyboard and lose an octave, too. As such, we'd only go for this one if you don't want a weighted keyboard and feel that the Fantom-06's 61-note range is just too restrictive.

FM VERDICT

9.0

Offers so much for a lot less money than the standard model. A superb studio workhorse and lightweight gigging keyboard to boot

Befaco Pony VCO £205

Rob Redman finds this useful, compact VCO is more than just a one-trick-pony

CONTACT **WHO:** Befaco **WEB:** befaco.org **KEY FEATURES** **I/O:** Through Zero Frequency Modulation, Wavefolding (Timbre), Pulsewidth Modulation (PWM), SYNC, VCA, LFO

VCOs are the one category of module that everybody has, which begs the question: do we need more on the market? Well, Befaco seems to think so, with their Pony VCO joining their fairly extensive lineup. It's easy to see why too, as this unassuming little module has quite a lot on offer, especially for the diminutive 4hp size.

Pony is a solid module, as is to be expected from such a well established developer. The patch points, knobs and switches all feel responsive and have a satisfying engagement. Physically the only let down is the aesthetic – it's crisp and clean, which is a good thing, but lacks in excitement. That is a matter of taste and the traditional red and black will please Befaco fans.

Pony is, at first glance, a standard-looking VCO. It features a seven octave range, with a manual frequency control. But spot the little switch beneath it? That allows Pony to run at audio or LFO rates, making this a sweet little modulation source too, not something you may expect at just 4hp. That alone makes this a contender for those shopping for a VCO but add to that the decent selection of waveshapes and things starting hotting up. There are sine, triangle, saw and square (with pulse width modulation) here, making this good for a comprehensive range of tonal escapades.

For the price, that appears to be a good deal in and of itself but Pony has one more trick and that is the wavefolding. This tiny analogue VCO has what it calls a timbre control. In square wave shape mode this acts as a control for the pulse width but in the other modes it is a true wavefolder, making this one of the most versatile voices out there, especially for this size and price point. Complex oscillators can be big devices, with equally hefty price tags but Befaco has managed to coax a lot of versatility out of a little space. The range of interesting and varied timbres that can be generated here really does cover a lot of harmonic territory and much fun can be had with a finger tip on that red slider.

That said, many modularists still prefer to use CV for this type of thing and Befaco has catered to those users too, with plenty of CV patching capability, from timbre control, FM, volts per octave and CV control over the onboard VCA, another feature rarely seen on modules this small. There is even a sync jack, so that you can get the Pony to play nicely with its stablemates.

All in all Pony is an impressive module that covers a lot of ground, can be controlled manually in an intuitive way (or via CV) and the fact that it can be run as an LFO, with the same waveshaping possibilities, adds to the flexibility. **FM**

FM VERDICT

8.5

A quite special module, packing flavours of complex oscillators and frequency modulation into even the most limited rack space

THE PROS & CONS

+

Many options for the size

Onboard wavefolding

Runs at audio and LFO rates

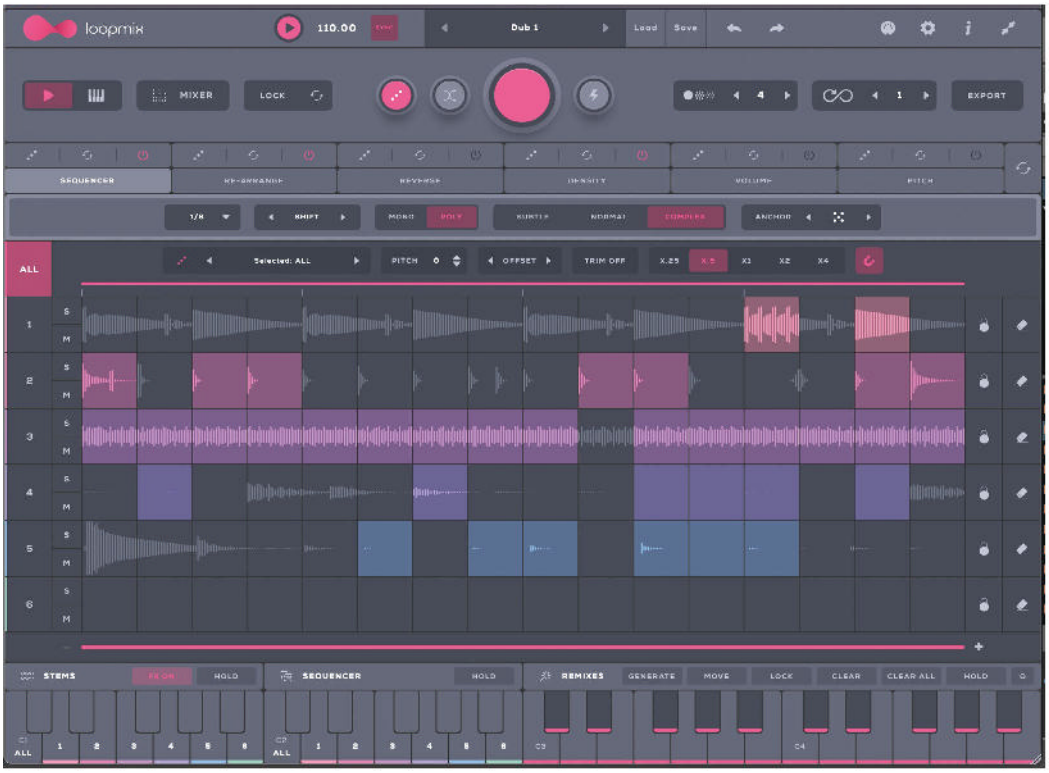
–

Uninspiring front panel

Audiomodern Loopmix €69

A six-track looper with controlled randomisation at its heart. **Si Truss** gets in the loop

CONTACT **WHO:** Audiomodern **WEB:** audiomodern.com **KEY FEATURES** Six-track looper with editing for sequencing, rearranging, reversing, density, volume and pitch. Features an array of complex randomisation and variation options. **FORMATS:** PC/Mac VST, VST3, AU, AAX iPad AUv3 (iPad version priced €9.99)



THE PROS & CONS

+

Deep and creative randomisation tools

Generous factory library

Powerful performance features

–

No way to fine tune the timing of individual stems

An in-plugin tutorial would be handy

Loopmix is the latest plugin from Audiomodern, the developers behind tools such as Playbeat, Riffer and Chordjam. What these plugins have in common is a focus on using intelligent, controlled randomisation to generate new ideas, a concept once again at the core of Loopmix. This is a six-track looper, designed to let users 'remix' their loops using sequencing tools and effects.

Loops can either be dragged in from the user's own library, or imported from the generous 1.6GB factory library. Loops are stretched to fit the project tempo – which generally works pretty well, although it's a shame there aren't more options for fine tuning the timing of a loop in the cases where drag-and-drop doesn't quite nail this. There are, however, options to multiply or divide the playback speed and nudge loops left or right by single-beat offsets.

Once loaded, Loopmix uses six editing tabs. The first is a Sequencer, where users can engage individual steps of a loop. This can be done in either poly mode – where six loops of audio can be sequenced simultaneously – or mono, which essentially creates a single mix-and-match loop from your six audio files. The next tab, Rearrange, is a basic audio editor that lets users copy and move individual hits within each audio loop. Next is a tab in which users can Reverse individual steps, followed by Density, which is essentially a per-step beat repeater. The next tab is a Volume sequencer, while the final tab sequences Pitch, allowing each step to be shifted +/-12 semitones, which can be done around a variety of preset scales.

So far, fairly simple, but where Loopmix stands out is in the deep, flexible randomisation options that can be applied at every level. Each tab can be randomised individually, or the entire loop can be randomised. In each case, Loopmix features settings that can dictate the parameters by which the loop is randomised, letting users target or lock individual elements, and set the boundaries of the randomising process.

There are a host of cool tools for getting creative and performing with these variations too. Along the top, controls allow users to engage temporary randomisation, or use a particularly cool 'disintegration' tool, which essentially breaks a loop down to nothingness over a set number of bars. Along the bottom of the interface, a keyboard allows the user to trigger each track, either as the original stem or sequenced version. The keyboard can also generate, store and trigger a variety of 'remix' versions of the loop. Almost every element of Loopmix can be MIDI-mapped too; great for live use.

It's a genuinely fun, inspiring way to discover new arrangements of your existing ideas. There is a lot going on though, and we'd recommend giving the manual a thorough read. As with most Audiomodern tools, there's an iPad version too – particularly appealing here, for reworking loops and ideas on the go. FM

FM VERDICT

8.9

Creative performance and randomisation tools make Loopmix a lot of fun, and it can be a genuinely inspiring way to generate new

Sennheiser XSW IEM Set £529

Wireless in-ear monitoring is great for performing. **Jon Musgrave** connects up this latest all-in-one entry level bundle

CONTACT **WEB:** sennheiser.com **KEY FEATURES** Kit features XSW SR transmitter, XSW EK receiver and IE-4 in-ear headphones. UK unit transmits 476MHz to 500MHz in 0.025MHz increments, Two XLR/TRS jack combi inputs, Onboard 1/4" headphone monitor output with level control, Removable BNC antenna, Integrated receiver sync feature

The XS Wireless In-Ear Monitoring Set is an entry level UHF kit from Sennheiser, but at £529 is still a considerable chunk of cash. Still, what you're getting is Sennheiser's years of experience designing onstage wireless systems. The box has everything you need to provide wireless in-ear for one person, including the XSW SR Stereo Transmitter, EK Stereo Receiver, rack ears and full-width rack extender. There's a multi-territory transmitter power supply and AA batteries for the receiver and a pair of IE 4 in-ear headphones. You can add additional receivers and transmitters and a two-unit rack joiner plate is included. At £529, the bundle price is considerably cheaper than the individual components (£679).

Setup is simple. On the back of the transmitter is a pair of XLR combi inputs flanked by the antenna connector and power supply input. On the front there's a menu-based display alongside a ¼" headphone output and level, a convenient way to check the feed/set levels. On the transmitter you can select between left only (mono) or left and right (stereo) input, and also adjust the overall input gain.

On the top of the receiver you have a mini jack for your in-ear phones, a volume control, antenna and status LED (Link). The front of the receiver has a small display that shows current transmission frequency, battery level status, RF signal level and audio signal level. A flap-down panel reveals the battery compartment, display navigation buttons and infrared interface. In addition to setting the bank and channel to match the transmitter, you can also activate the onboard limiter and EQ (+10dB at 13kHz). This is also where you adjust the left/right balance or activate the Focus option. This feature centres the left and right channels, then lets you blend between them. So, if you use two separate mono feeds into the transmitter, for track and performer say, the performer can then control their balance on the receiver. Nice. With a bunch of preassigned frequencies across eight banks and 12 channels, I didn't need to use the manual frequency Tune option, but you have an adjustable range of 476-500MHz in 0.025MHz increments. If you hit Sync on the transmitter, holding the receiver IR panel up to it, they pair automatically.

Unsurprisingly the audio quality is excellent, although adjustable EQ gain would be welcome. I also like the sound and volume of the IE 4 headphones, and with three different size end attachments, achieving a comfortable sealed fit is easy. I also found the wireless connection very stable and although these things are circumstance-specific, without any obstacles I was well in excess of 15 metres from the transmitter before I noticed the odd drop out creeping in. All told this is a quality package and if your budget can stretch this far, you won't be disappointed. FM

> I was well in excess of 15m from the transmitter before I noticed drop-outs

FM VERDICT

8.5

It may not be cheap, particularly for entry level, but this set does precisely what it should, so you can crack on with performing

THE PROS & CONS

+

Everything you need to get started

Good onboard options for receiver

Stereo/blended mono performer options

Multiple bank and channel presets

Quick-setup infrared sync feature

–

Included headphones sound good but don't feel very robust

Elgato Wave DX

£110

Jon Musgrave weighs up this latest podcast-ready mic from media manufacturer Elgato

CONTACT **WHO:** Elgato **WEB:** elgato.com **KEY FEATURES** **TYPE:** Dynamic **PATTERN:** Cardioid **FREQUENCY RESPONSE:** 50Hz to 15kHz **SENSITIVITY:** 2.5 mV/Pa, -52 dbV/Pa **IMPEDANCE:** 600 Ohm **CONNECTOR:** 3-pin XLR **DIMENSIONS:** 53 x 53 x 146mm **WEIGHT:** 440g

Aimed at streamers, podcasters and computer-based professionals, the Wave DX is a cardioid dynamic mic from Stream Deck designers Elgato. According to Elgato it is speech optimised, has a wide acceptance angle, utilises an internal pop filter and delivers good room noise rejection. I understand the capsule was designed in cooperation with respected mic company Lewitt Audio, and the end address design is in keeping with other similar dynamic mics (Shure SM7B, Sontronics Podcast Pro and Rode PodMic).

Visually the mic is slick and understated. The mic chassis is hardened steel, and the black satin paint finish looks great. So far so good. The mic has a side-attached mounting arm with thumb tightener, and this incorporates a nifty two-part thread insert (3/8" and 5/8"), so it's already equipped for all manner of mic stands and holders. The mounting arm is also removable and can be mounted on either side, which is a nice touch, as is the branded blanking cap for filling the unused screw hole. I like the side-mounted arm as it means the mic cable is reasonably free. Even so, it does need to be coupled with a flexible stand so you can adjust the mic orientation properly (Elgato's Wave Mic Arm LP for example).

Wave DX has an XLR connector for connection to a regular preamp or interface, but has no further on body options such as low cut filter. That said, Elgato also envisages its use with Wave XLR (£160), their compact single mic USB interface, and if you pair it with this system you'll benefit from Wave XLR's low cut filters and clip limiter. I tested it with a regular mic preamp and like most dynamics it needs a reasonable amount of gain. However, at 2.5mV/Pa, the output ranks well against its peers.

Sonically, Wave DX has a crisp upfront sound. There's a moderate low frequency boost when you get in really close and although I couldn't find a frequency plot there's clearly a reasonable low cut in play coupled with a mid to high frequency boost to help articulate speech. It's quite a tailored sound and therefore not best suited to general miking duties. That said, for speech the integrated plosive control is excellent, and although you can get some distortion with extreme plosives, the effect is not particularly bad. Importantly, you're probably not going to need a pop shield.

Podcast mics often opt for a supercardioid or hypercardioid design, and this can improve isolation in a multi-participant studio setting. However, from a presenter perspective, staying on-axis becomes harder. The Wave DX opts for a wider pattern, which I prefer, and in use I found I could work around the capsule end without any obvious difference to the tone.

So, do I have any gripes? A very simple one, and that is that the mounting arm is hard to tighten sufficiently. It's a minor issue and one you could probably resolve with an extra rubber washer. Nevertheless, there's still a lot to like about this mic and I think for anyone producing podcasts, the crisp broadcast-ready sound, robust dynamic design, good handling of plosives and reasonably broad pickup pattern are all good features. FM

THE PROS & CONS

+

Quality robust construction

Crisp speech-ready response

Excellent handling of plosives

Decent output level

–

Mounting arm hard to tighten

Tailored frequency response limits alternative uses

FM VERDICT

8.2

Wave DX is aimed squarely at streamers and podcasters and certainly isn't a jack of all trades, but it delivers well on its remit

UVI – Soul Bass €99

(or with a SonicPass subscription)

Whilst UVI's extensive instrument library is filled with many classic synths, they have always balanced this with a strong set of acoustic and electric sources. A few months back we looked at 'Soul Drums' and it impressed in the way it could move between authentic vintage drums and those with a more contemporary retro-tinged vibe. 'Soul Bass' is the latest of their releases to embrace this approach, and once again it combines a large collection of samples from a 'real' source alongside some more synthetic sounds.

The core instrument here is a 1960 Fender Jazz Bass recorded with finger bridge, finger neck, finger muted, pick, and pick muted configurations alongside additional playing techniques like hammer, pull off, ghost, slide and harmonic.

As you'll find with other UVI soundware the instrument is initially loaded via the free UVI Workstation or within Falcon. Here you'll need to choose a performance style (such as "Finger – Bridge") before being presented with the full interface. Once this has loaded different presets can be selected (with each duplicated for every performance style).

The interface layout will be broadly familiar to those who have used other UVI instruments – though, as always, each UVI product is given its own graphical and functional take on this. There are four tabs for navigating between sound selection, editing, effects and sequencing. The Main tab allows you to set the performance mode of the 'electric layer' (the Fender bass) – though these can be altered in real time via key-switching MIDI notes – and select from different sources for the 'synthetic layer'. These include Analogue, FM, Modelisation (physical modelling), Vintage Digital and Waveform (single cycle waves). These layers can be used to add extra heft to the electric tones or even on its own – though there are of course many more efficient ways of accessing synth bass tones available if that's what you're after.

The Edit tab provides access to standard pitch, and amp and filter envelope controls; all independently configurable for each layer. The filter (modelled on Korg's classic MS-20 monosynth) is sweepable from low to high pass modes and allows for modest tonal shaping or more heavy-handed processing – perfect for dialling-up some auto-wah funk effects.

Next, the FX section adds insert effects (per layer) plus send and master effects. The sends can access two independent delay and reverb processors and everything then gets fed into the Master EQ and Compressor. However it is in the stompbox styled insert effects where most of the real action takes place, including amp and speaker/cab emulation.

The Sequence section includes some excellent patterns which can be adjusted to the correct key and dragged as MIDI into your project.

As I found with Soul Drums, loading times can be sluggish (down to the UVI software and sample structure). It'd also have been nice to have had more flexibility in terms of amp/cab options, including the ability to change (virtual) mics and positions and maybe combine different approaches for more flexibility. Still, while perhaps not an essential purchase, Soul Bass complements Soul Drums quite nicely.

Bruce Aisher

uvi.net

VERDICT 7.9

Audiotent – Optic

Standard: $56 Deluxe: $67

Peeper-popping sounds for proggy house hunters looking for the perfect beat. It's 518 grooved up loops and 185 heavy hits, crafted from sampled synths and serious drum machines. And each magnetic melody and arresting rhythm in this 1.42GB package will have you slack-jawed as you gawp and gander at the quality that's on offer.

High-gloss textures and tones come at you head on, as the tech-flecked drums burrow into your frontal lobes, while all the mesmeric bass loops, pads and chords lay down a thick and foggy funk you'll be gagging to wade through.

Great for adding some weight to your deep dancefloor fodder. And, after a sly upgrade to the Deluxe version, you can unlock the MIDI, too. It's an aye from us. ***Roy Spencer***

audiotent.com

VERDICT 9.0

5Pin Media – Keeping It House £19.95

A slamming set of full-track construction kits, pumped to the gills with meaty beats and treats for house heads to freak over.

Each project is laid bare, throwing up all the 'under the hood' heat that makes each song tick. There's killer bass grooves, classic piano flourishes, breakdown passages, and other top-tier riffs and rhythms, ready to find a happy home in your next 4/4 floor-filler.

The tempos run from 124 to 128bpm, and all the royalty-free content has a pro sheen to stand up against the slickest productions in the current dance charts.

There's also wet and dry synth sounds, MIDI files, and tempo and key info where needed. So, pop the lid and take what you need – this one's a keeper. ***Roy Spencer***

loopmasters.com

VERDICT 7.0

Element One – Dark Jungle £14.95

Pitch-black drum & bass business in this one. And only for the moodiest of dancefloors. The rolling loops and seismic sounds in this budget-conscious collection demand the attention of the more twisted amongst you. As each Reese line and wub-wub bass riff is built to make hairs stand bolt upright, and club walls tremble.

Elsewhere, fierce chopped breaks clatter along like the hoofs on the four horsemen's steeds with sinister strings, unsettling synths and atmospheres, and a whole bunch of eerie Foley soundscapes.

Taking cues from pioneers of the sound like the Source Direct crew, Sully, and Overlook, this sample pack is full of the kind of world-building tools they use to mess with your mind. ***Roy Spencer***

loopmasters.com

VERDICT 7.0

Splice – OFF RECORD PRESENTS: Extra Sturdy Sample Pack From $7.99/mth

Serious set of samples picking up on the sounds and styles running around the current UK and US drill scenes. Pieced together by NYC-native A Lau, and served up by the Off Record studio space and producer posse, this collection ticks off all the track ammo you'll need to turn out your own street-savvy bangers.

There are choral vocal lines and chops to mess with, stuttering hat programming to weave through the thick kicks and snares, slick stretched melody loops and a fat stack of speaker-shaking basses. Full of heavy-hitting punch, perfect for MCs and vocalists to flow over. ***Roy Spencer***

splice.com

VERDICT 8.0

Sample Magic – Shoegaze From $7.99/mth

A wavy wonderland of woozy WAVs for all you dreamy indie rock groovers out there to plunder. The washed out, hazy sounds in this delicately crafted pack have plenty of '80s and '90s twangs, electronic hits and fizzes, and enough heart-melting lo-fi lead lines to keep you and your moody bandmates in earworms for years.

Pop the top on any of the fuzzed-up guitars, gated drums, acoustic rhythms and duvet thick pads and you'll have cobbled together a serviceable beatrock of a beat, oozing that unmistakable indie swagger. All leaving you free to try that Kevin Shields impression you've been working on. ***Roy Spencer***

splice.com

VERDICT 7.0

Signum Audio Skye Clipper

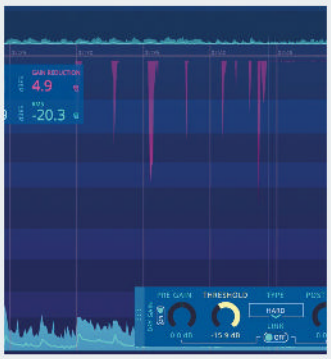
Clipping is a time-honoured staple of music production. For most of its life it was unwanted – the distortion caused by a signal whose level was too high for a given piece of gear. These days, clippers and soft clippers serve a lot like brickwall limiters, stopping a signal from going over a certain threshold. The effect is useful in mastering to achieve loudness, but also tends to introduce saturation, especially when pushed hard. Signum Audio's Skye Clipper takes on clipping with seven modes of operation and boasts proprietary tech to reduce aliasing artefacts, aiming for a smoother clipping effect to help push your signal harder and hotter. Get a free trial version at **signumaudio.com.**

Starting with gain >

Here's Skye Clipper straight out of the box. Note our signal hiding down at the bottom, barely tickling the floor with some serious headroom above it. Sounds like a challenge. We can start by pushing up the Pre Gain parameter, which works only when the switch next to it is activated. By default, it's linked to the Post Gain knob, compensating for any change we've made after the clipping is done. For now, we'll switch that off to run our signal a little more healthily. At 13 or so dB, we start to hit the clipper.

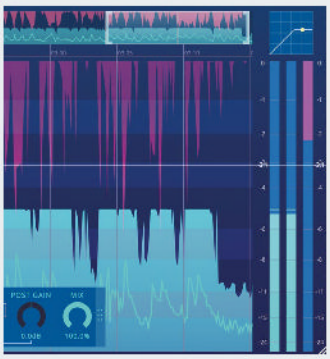
Threshold operation >

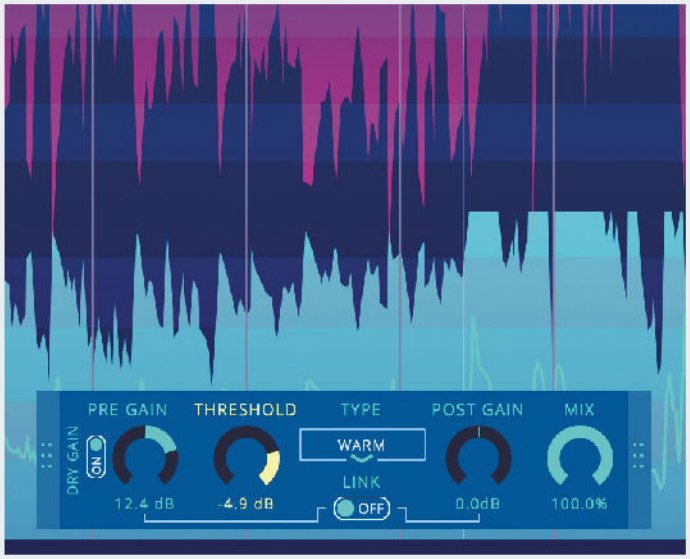
To do this without changing the gain, we can simply bring the clipper's Threshold down to the input level of our signal to get things started. The clipper scalps off any transients that get in its way, dulling their snap a bit and keeping the dynamic range of the signal low. Reduce it, and the sound really starts to fuzz out. It sounds bad for most production contexts, but can really get something like a Rhodes piano going in terms of distortion. Definitely best for taking off the top transient peaks.



Keeping an eye out >

The graph, top right, shows your clipping transfer function, and helps you see when your signal actually gets pushed down. The metering down the right side of the plugin shows the output left/right channels (left/middle bars) as well as the amount of gain reduction coming down from the top in red (right bar). For mastering-style clipping, we may want to unlink the Pre and Post Gains to balance it ourselves; for creative, distorting clipping, we'd want to match input and output meter levels.



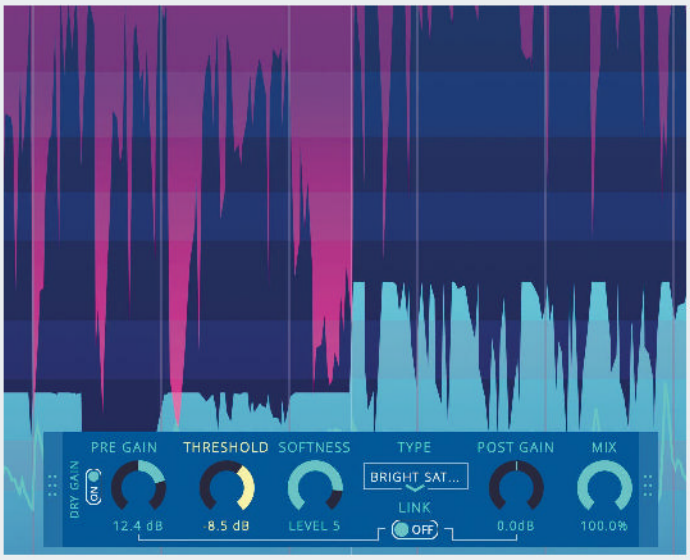


< Clipping types

Now the moment we've all been waiting for. You can choose between the seven types of clipping (ie, seven transfer functions), using the menu in the centre of the bottom panel. Warm clipping has a nice, gentle knee shape (transfer function) that progressively clamps down harder as the signal goes higher over the threshold level. Bite straddles gentle and hard clipping, with a very similar transfer curve to the Bright setting we're about to see.

TRANSFER FUNCTIONS

Dynamics devices often contain a transfer function view. This is a representation of output against input signal, with a line plotted to determine how they connect. The most obvious example is in a compressor: with no compression applied, the line is a straight diagonal; when compression is applied, the line remains like this from its bottom left, but starts to bend at the threshold, meaning that everything over the Threshold is curtailed in level to an extent. The curve around the threshold point would imply a soft or hard knee, which represents how quickly the most extreme level of compression is reached after the threshold is breached. Clipper transfer functions work in just the same way.

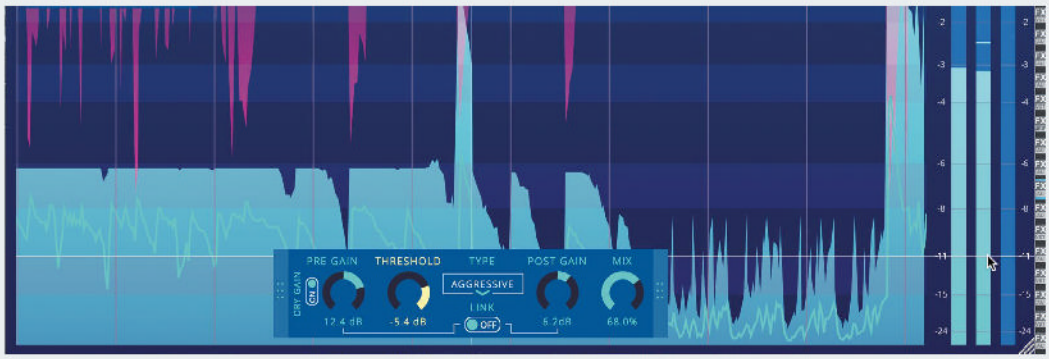


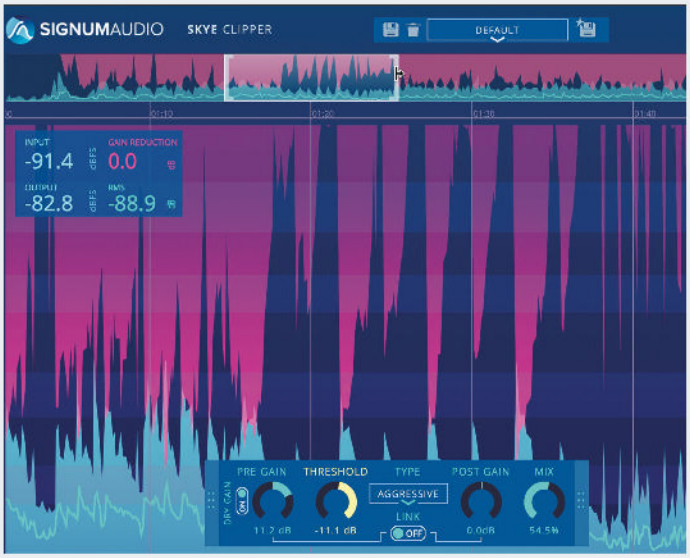
More clipping types

The Bright shape actually has a steeper transfer function before clipping occurs, and the clipping that does occur goes from gentle to somewhat hard quite swiftly. Bite Saturator, meanwhile, introduces a Softness control that helps you bend the curve's knee between hard and soft. There's a Smooth type that backs things off a bit, and an Aggressive one that takes things into more 'firefighting' territory – although again, the result you get will very much depend on the material you put in in the first place.

Mix

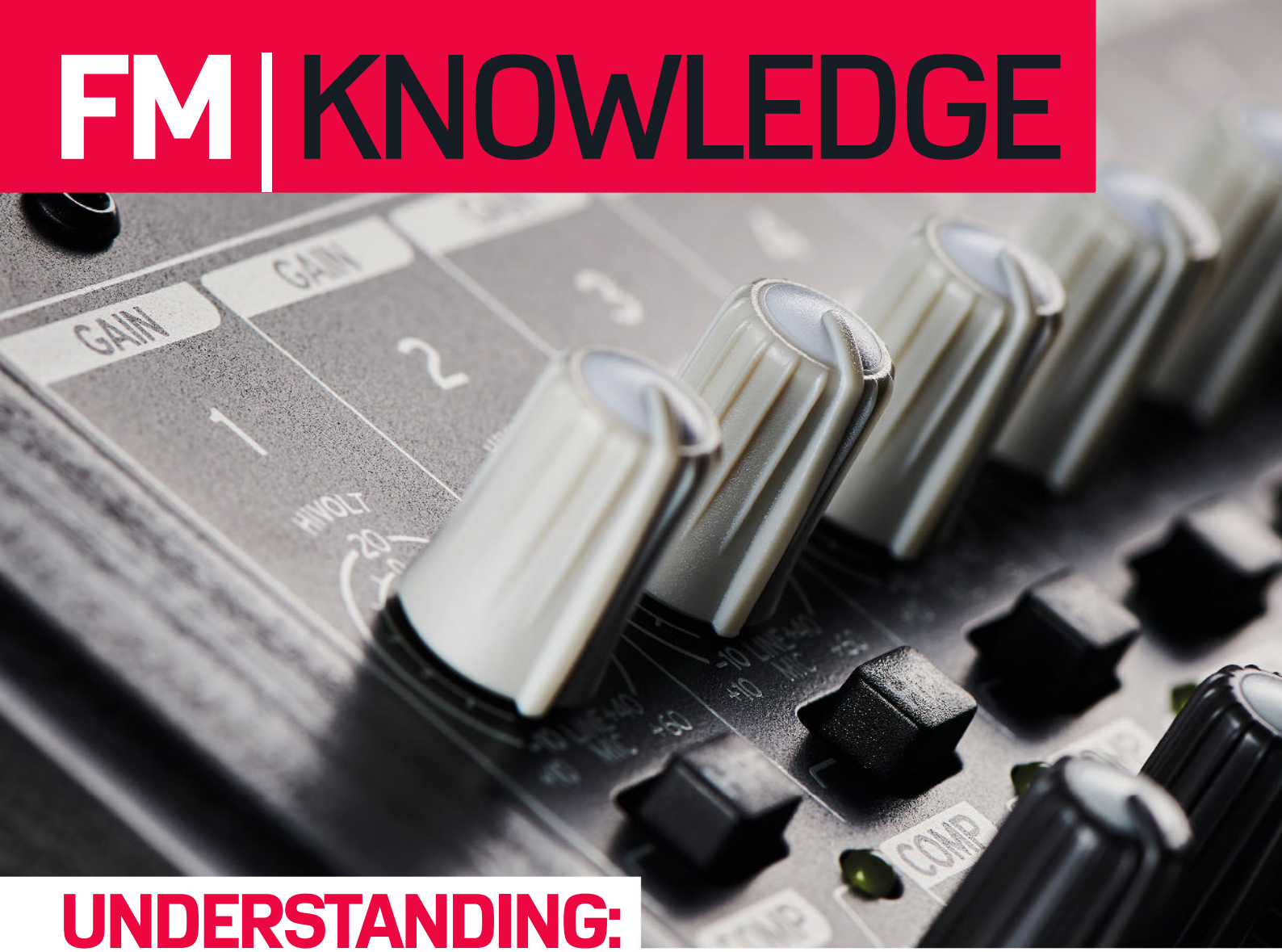
If you've cooked the clip very hard (ie the Aggressive distortion type), you can back things off again, while retaining some of that flavour, using the Mix control. Reducing it from 100% lets some of the dry, unprocessed signal back in. In a creative or saturation use case, the Mix control is a normal affair; in a transient-taming clipping use case, the Mix won't function much like a parallel compressor would, exactly.





History

Along the top of the interface, you can check your waveform at different points in the past, including gain reduction amounts. You can use the timeline view selector to make the viewable window smaller, taking a closer look; or larger, getting a wider overview of a large portion of your project. You can set the window back to wherever you choose, but the information will be overwritten if Skye Clipper has been active for a while longer after this was printed.



UNDERSTANDING:

Gain staging

WHAT IS IT?

Also known as gain structure, the process of matching the output level of one piece of equipment or software to the input of the next. Important to avoid distortion, maximise signal-to-noise ratio and achieve the best sound, this is usually a question of compromise and finding a balance between all stages of the signal chain.

NEED TO KNOW: Four considerations for a modern recording chain

MIC PLACEMENT

1 If you're recording using a mic, the first step is microphone placement. Largely determined by the instrument you are recording and the type of mic you have, it has an impact on the signal level. If we're dealing with a particularly loud source or close mic placement, the mic signal can easily be too hot for the preamp.

PREAMPS

2 The next step is to set the mic preamp. If you're using an analogue desk (or emulation of one), the aim is to set the channel so that the average level of the signal hovers somewhere around the 0dB mark. However, most of us are probably using a standalone pre or the preamp built into an audio interface. Like a lot of gear, many preamps have a sweet spot. It's worth experimenting with a setting that's slightly quieter or louder than you think you need. Then compensate for it elsewhere.

INTERFACE

3 You have to get the signal into the computer via your audio interface. Audio interfaces generally offer two types of input: preamp inputs and line inputs. If you're running a mic or low-level synth, you'll want a preamp input. Outboard that produces a line level signal should go into a line input. Modern synths with hotter outputs may also run straight into a line level input, whereas vintage units often need more gain to boost the level and may even need a 'hi-Z' or DI input to avoid impedance mismatches. Just experiment until you find what works best for each synth.

IN THE BOX

4 With the signal in the DAW, things get easier. Most DAWs and plugins tolerate overly hot signals. It's also much less likely that processing will introduce noise. However, that doesn't mean we can ignore gain staging in the box. Plugins designed to emulate the operation of analogue gear almost always need signals within a certain range. Effects like tape saturation or overdrive are often designed to break up more noticeably when hit harder, like hardware would. Running signals outside their intended range means they won't work at their best.

Quick Synth Tips: Part 1

Get more out of your synths with our series of quick-and-dirty synthesis tips

FM BELLS

Do you want that classic FM bell sound? Get started by setting up two operators, both sine waves, using the second to modulate the first. Offset the second operator [Pigments Osc 3 in our example] such that its ratio is around 0.3 (or about -20/-21 semitones). Increase the modulation amount until you hear a bell-like 'gong', then program a suitable amplitude envelope. Add chorus and reverb for further effect, and then play the patch in the upper octaves for a glassy DX7-esque bell tone.

RING MOD

Synths often feature a ring modulation control, which works by multiplying the signal with another. This can create weird digital sounds or even strange, bell-like tones.

This can be great in pads if it's a per-oscillator control, as linking a second or third oscillator's ring mod control to a slow, sweeping LFO can create movement and texture within pads. The effect can get overpowering, so experiment with how much modulation it's receiving to create interesting sounds.

COARSE CHORDS

Coarse detuning can be used to add even more thickness to your synth sounds, as well as creating interesting melodic effects. The simplest way to add weight to a synth sound is to add an oscillator and tune it down an octave (-12 semitones). Many synths also feature a dedicated sub-oscillator for adding a simple tone tuned, typically, an octave or two down.

Tuning an oscillator up +7 semitones gives the classic open fifth sound. This can be very effective with lead sounds and pads, particularly when playing big chords.

ATTACK!

Are your synth sounds clicking at the start or end of notes? This can be noticeable on pure tones like sine waves, but there's an easy way to sort it: turn up the envelope attack and release very slightly until the problem goes away.

WANT MORE TIPS?

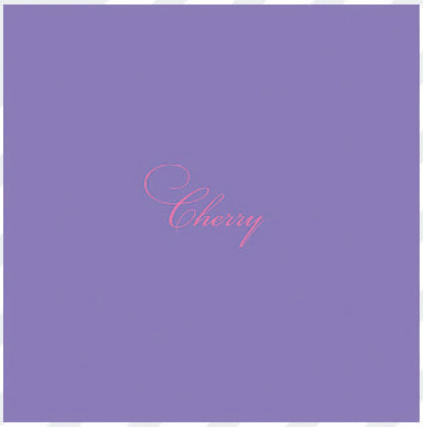
Come back for more next issue, and watch our playlist of 20 video tips – in a handy phone-friendly format – at: **bit.ly/fm20stip**

ESSENTIAL ALBUMS 2022

Kelly Lee Owens

LP.8 Smalltown Supersound

For her third album, the Welsh producer imagines how her sound might have evolved by album number eight (hence the title). The result is a rugged, sparse and often beautiful album of forward-thinking dance music.



Daphni

Cherry Jiaolong

Dan Snaith – aka Caribou – returns to his club-focused alias for an album of stripped back synth jams and percussion workouts. *Cherry* is a great example of why, when it comes to dance music, sometimes it's best not to overthink things.

Beyoncé *Renaissance* Parkwood

The biggest pop musician on the planet channels vintage house and techno with the help of producers like Honey Dijon and a bucketload of classic samples – we're here for it!

Soichi Terada, *Asakusa Light* Rush Hour

The noted Japanese video game producer returns to his solo music career to create some of the most gorgeous deep house we've heard all year.

Shinichi Atobe, *Love of Plastic* DDS

The publicity-shy Japanese producer releases another LP of flawlessly-produced, brilliantly restrained house and techno.

Daniel Avery, *Ultra Truth* Mute

Another year, another excellent LP from Daniel Avery, this time channeling *Selected Ambient Works* and *Loveless* in equal measure for the perfect atmospheric rave.

Jockstrap, *I Love You Jennifer B* Rough Trade

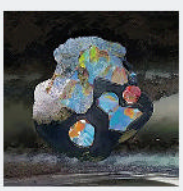
Look past their slightly unsavoury band name and you'll discover that UK duo Jockstrap are creating some of the best electronic pop going.

Sudan Archives, *Natural Brown Prom Queen* Stones Throw

Between her violin playing, vocals and production, Brittney Parks proves herself to be a musician with few peers.

Hagop Tchaparian, *Bolts* Text

The Armenian-British producer's debut album combines throbbing synths and garage drums with found sound textures and inspired sample flips – a perfect fit for Four Tet's Text label.



Batu, *Opal* Timedance

Timedance founder Batu has had a hand in some of the most exciting underground music of the past decade. His debut album sees him flexing his impeccible, atmospheric sound design skills.

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ADAM AUDIO

MOST WANTED FOR 2023...

Korg DrumLogue (again...)

12 months on, Korg's long awaited hybrid beatmaker is still yet to hit shelves. It's nearly here though – we actually have one in our hands, and you can expect a full review next issue.

Sequential Trigon-6

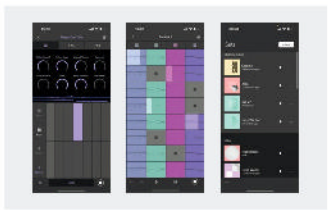
The final instrument to be designed by the sadly departed Dave Smith looks like a typically rich and well-equipped analogue poly. We can't wait to give it a try.

Sonicware Liven LoFi-12

Another vintage inspired instrument is about to arrive as part of Sonicware's retro-minded Liven range. LoFi-12 aims to replicate the gorgeous crunch of '80s and '90s samplers.

Serato Stems

DJ with the individual elements of fully mixed tracks in Serato – we've tried the Beta and we're impressed with how well it all works. It'll land in Serato DJ (Lite and Pro) soon.



Ableton Note updates

Ableton's launch into iOS is a strong start, and we've had a lot of fun with Note. We're hoping for updates to push it to the next level though – offline sequencing and audio loops please!

Logic for iPad?

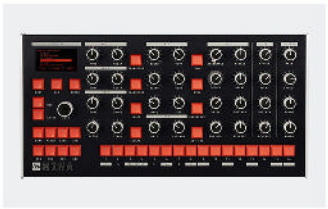
There's no doubt that the latest iPad Pros have more than enough power to run Apple's flagship DAW. Surely it must be time to bring Logic Pro to the iPad?

Groove Synthesis 3rd Wave

First seen at NAMM, this wavetable synth comes from former Avid and Sequential staffers. Limited orders are beginning to make their way into the world – we're keen to try one!

Moog Minimoog Model D

After five years MIA, the OG monosynth is rolling off the production line once again. Is it really worth spending £5k on a 3-osc synth in 2023? Probably not – but we want one anyway!

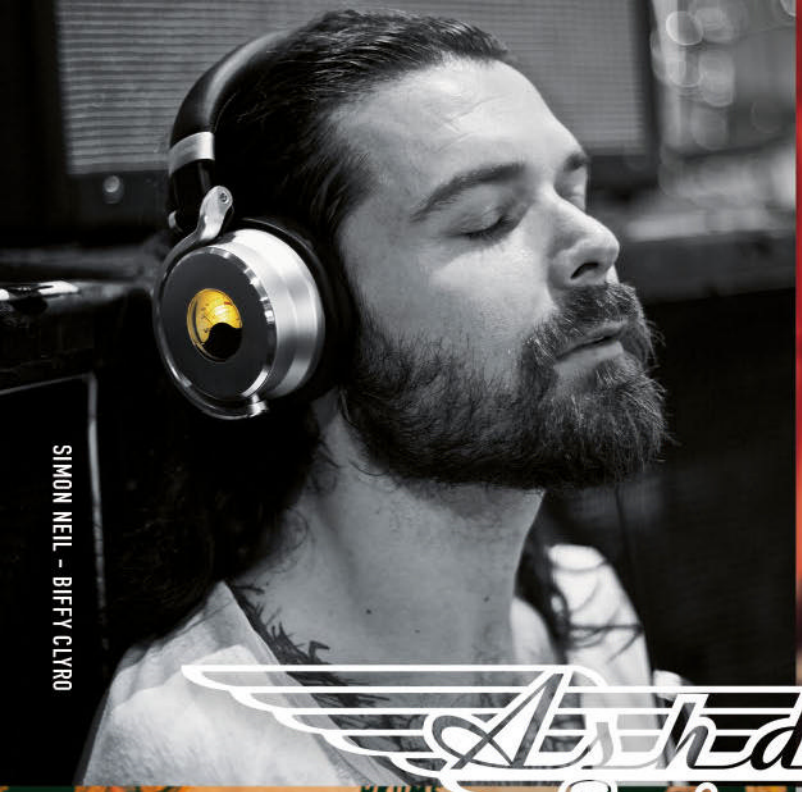


Melbourne Instruments Nina

Chunky red buttons and motorised knobs? Sign us up! From what we've heard, this debut analogue poly from the new Aussie brand should sound the business too...

Ableton Push 3?

The latest version of Ableton's Push controller is now seven years old. It still holds up remarkably well, but surely we're due an upgrade. How about some CV outs on the next one...?



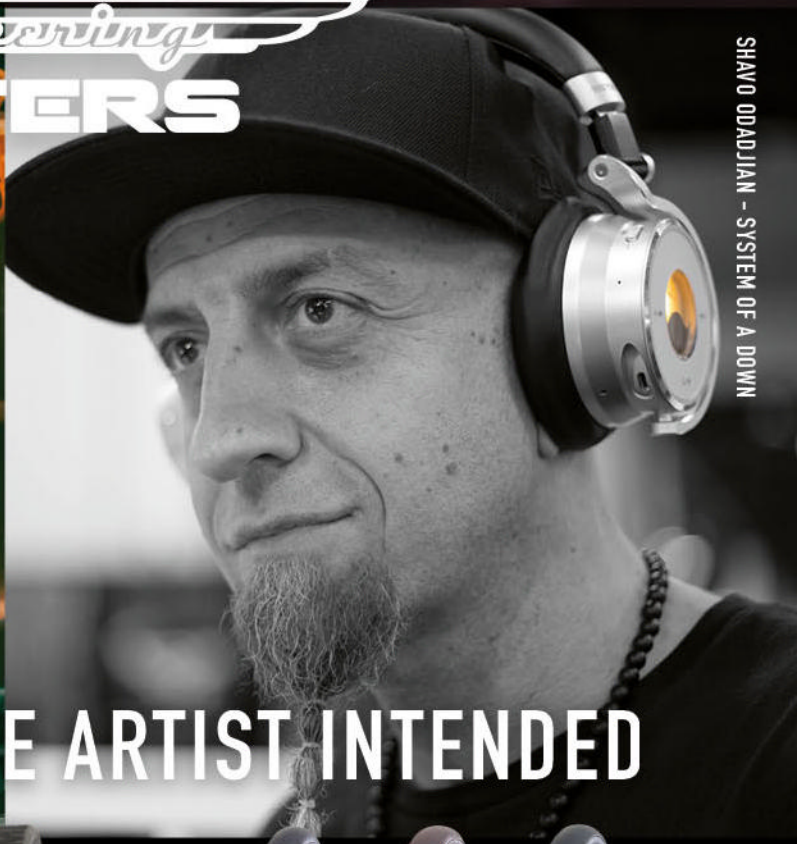
SIMON NEIL - BIFFY CLYRO

ZAK STARKEY - THE WHO

Ashdown Engineering

METERS

IAN MATHEWS - KASABIAN



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